The Institute of Chartered Accountants in England and Wales

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Workbook

For exams in 2021

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Financial Management

The Institute of Chartered Accountants in England and Wales

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Contents

Questions within the Workbook should be treated as preparation questions, providing you with a firm foundation before you attempt the exam-standard questions. The exam-standard questions are found in the Question Bank.

Welcome to ICAEW

I'd like to personally welcome you to ICAEW.

In a fast-changing and volatile world, the role of the accountancy profession has never been more important.

As an ICAEW Chartered Accountant, you will make decisions that will define the future of global business.

By choosing our world-leading chartered accountancy qualification, the ACA, you will acquire exceptional knowledge and skills – with technology and ethics at the heart of your learning. A focus on capabilities such as judgement and scepticism will enable you to make the right decisions in diverse and often complex environments.

You will be equipped to flourish and to lead in areas that are transforming the business landscape. This includes embracing technological change and harnessing digital disruption, to help our profession deliver greater value. It also includes putting climate change and sustainability at the heart of business strategy. We will equip you to be adaptable and agile in your work and all within a set of values fundamental to trust and transparency, which will set you apart from others.

Joining over 184,500 ICAEW Chartered Accountants and students worldwide, you are now part of a global community. This unique network of talented and diverse professionals work in the public interest to build economies that are sustainable, accountable and fair.

You are also joining a community of 1.8m chartered accountants and students as part of Chartered Accountants Worldwide – a family of leading institutes, of which we are a founder member.

ICAEW will support you through your studies and throughout your career: this is the start of a lifetime relationship, and we will be with you every step of the way to ensure you are ready to face the challenges of the global economy. Visit page v to review the key resources available as you study.

With our training, guidance and support, you will join our members in realising your career ambitions, developing world-leading insights and maintaining a competitive edge.

We will create a world of strong economies, together.

I wish you the best of luck with your studies.

Michael Izza

Chief Executive

ICAEW

Financial Management

If you are studying this exam as part of the ACA qualification go to icaew.com/examresources or if you are studying the ICAEW CFAB qualification go to icaew.com/cfabstudents.

Module aim

Financial Management enables students to recommend relevant options for financing a business, recognise and manage financial risks and make appropriate investment decisions.

On completion of this module, students will be able to:

- identify capital requirements of businesses, assess financing options and recommend relevant methods of financing;
- identify the financial risks facing a business and the principal methods of managing those risks; and
- apply appropriate investment appraisal techniques taking into account other factors affecting investment decisions.

Method of assessment

The Financial Management module exam is 2.5 hours long. The exam consists of three questions. Managing financial risk will be assessed as a discrete topic. The other two questions will assess financing options and investment decisions and valuation either as discrete or integrated topics.

Specification grid

This grid shows the relative weightings of subjects within this module and should guide the relative study time spent on each. Over time the marks available in the assessment will equate to the weightings below, while slight variations may occur in individual assessments to enable suitably rigorous questions to be set.

	Weighting (%)
1 Financing options	35
2 Managing financial risk	30
3 Investment decisions and valuation	35

Permitted texts

At the Professional and Advanced Levels there are specific texts that you are permitted to use during your exam. All information for these texts is available on icaew.com/permittedtexts.

Professional level exams	**Permitted text**
Audit and Assurance	✔
Financial Accounting and Reporting	✔
Tax Compliance	✔
Business Strategy and Technology	x
Financial Management	x
Business Planning	No restrictions

Advanced Level exams	
Corporate Reporting	No restrictions
Strategic Business Management	No restrictions
Case Study	No restrictions

The exams which have no restrictions include the following:

- Business Planning: Banking;
- Business Planning: Insurance;
- Business Planning: Taxation;
- Corporate Reporting;
- Strategic Business Management; and
- Case Study.

This information, as well as what to expect and what is and is not permitted in each exam is available in the Instructions to Candidates. You will be sent the instructions with your exam admission details. They can also be viewed on our website at icaew.com/exams.

Key resources

Whether you're studying the ACA qualification with an employer, at university, independently (self-studying), or as part of an apprenticeship, we provide a wide range of resources and services to help you in your studies.

Take a look at the online exam resources available to you on icaew.com/examresources and discover more resources and services at icaew.com/studentbenefits.

Syllabus, skills development and technical knowledge grids

This syllabus presents the learning outcomes for each exam and should be read in conjunction with the relevant technical knowledge grids and, where applicable, the skills development grids.

Exam support

A variety of exam resources and support have been developed on each exam to help you on your journey to exam success. This includes exam guidance, sample exams, hints and tips from examiners and tutors, on-demand webinars and articles.

Past exams and mark plans

Use past exams to practise answering questions. The mark plans will help you check your answers. The past exams and mark plans are included in your Question Bank and have been updated to reflect the 2021 legislation and syllabus.

Errata sheets

These documents will correct any omissions within the learning materials once they have been published. You should refer to them when studying.

Exam software

It is vital that you are familiar with the exam software before you take your exam. Access a variety of resources, including the practice software and sample exams at icaew.com/studentresources.

Student support team

Our student support team is here to help and advise you, so do not hesitate to get in touch. Email studentsupport@icaew.com or call +44 (0)1908 248 250. If you are browsing our website, look out for the live help boxes. You will be able to speak directly to an adviser. Mia, our ChatBot, is also on hand to answer your queries.

Online student community

The online student community is the place where you can post your questions and share your study tips. Join the conversation at icaew.com/studentcommunity.

ICAEW Quarterly and Student Insights

As an ACA student, you will also receive a copy of our member magazine, *Quarterly*. Read more at icaew.com/insights.

You'll also be able to access our practical and topical student content on our dedicated online student hub, Student Insights.

You'll find new-look features, interviews and guides giving you fresh insights, innovative ideas and an inside look at the lives and careers of our ICAEW students and members. No matter what stage you're at in your journey with us, you'll find content to suit you.

Tuition

The ICAEW Partner in Learning scheme recognises tuition providers who comply with our core principles of quality course delivery. If you are not receiving structured tuition and are interested in doing so, take a look at ICAEW recognised Partner in Learning tuition providers in your area at icaew.com/dashboard.

CABA

It can be tough juggling your studies with work, planning for the future and finding time to unwind. CABA are an independent charity that supports the well-being of the chartered accountant community. So, if you need support at home or at work, CABA is there for you. They provide information, advice and lifelong support to ACA students across the world face-to-face, over the phone and online. All their services are completely free and strictly confidential. Find out more at caba.org.uk.

ICAEW Business and Finance Professional (BFP)

ICAEW Business and Finance Professional (BFP) is an internationally recognised designation and professional status. It demonstrates your business knowledge, your commitment to professionalism and that you meet the standards of a membership organisation. Once you have completed the ICAEW CFAB qualification or the ACA Certificate Level, you are eligible to apply towards gaining BFP status. Start your application at icaew.com/becomeabfp.

Skills within the ACA

Professional skills are essential to accountancy and your development of them is embedded throughout the ACA qualification.

The level of competency required in each of the professional skills areas to pass each module exam increases as ACA trainees progress upwards through each Level of the ACA qualification. The skills progression embedded throughout the ACA qualification ensures ACA trainees develop the knowledge and professional skills necessary to successfully operate in the modern workplace and which are expected by today's forward-thinking employers.

The following professional skills areas are present throughout the ACA qualification.

Skill area	Overall objective
Assimilating and using information	Understand a business or accounting situation, prioritise by determining key drivers, issues and requirements and identify any relevant information.
Structuring problems and solutions	Structure information from various sources into suitable formats for analysis and provide creative and pragmatic solutions in a business environment.
Applying judgement	Apply professional scepticism and critical thinking to identify faults, gaps, inconsistencies and interactions from a range of relevant information sources and relate issues to a business environment.
Concluding, recommending and communicating	Apply technical knowledge, skills and experience to support reasoning and conclusion and formulate opinions, advice, plans, solutions, options and reservations based on valid evidence and communicate clearly in a manner suitable for the recipient.

The following provides further detail on the professional skills that you will develop in this particular module. To see the full skills development grids, please go to icaew.com/examresources.

Assimilating and using information

Understand the situation and the requirements

- Demonstrate understanding of the business context
- Recognise new and complex ideas within a scenario
- Identify the needs of customers and clients
- Explain different stakeholder perspectives and interests
- Identify risks within a scenario
- Identify elements of uncertainty within a scenario
- Identify ethical issues including public interest and sustainability issues within a scenario

Identify and use relevant information

- Interpret information provided in various formats
- Evaluate the relevance of information provided
- Use multiple information sources
- Filter information provided to identify critical facts

Identify and prioritise key issues and stay on task

- Identify business and financial issues from a scenario
- Prioritise key issues
- Work effectively within time constraints
- Operate to a brief in a given scenario

How skills are assessed: students may be required to:

- absorb and understand both structured and unstructured material; and

- give recommendations based on their understanding and interpretation of the information provided, supported by explanation of the reasoning behind and implications of their recommendations.

Structuring problems and solutions

Structure data

- Structure information from various sources into suitable formats for analysis
- Identify any information gaps
- Frame questions to clarify information
- Use a range of data types and sources to inform analysis and decision making
- Structure and analyse financial and non-financial data to enhance understanding of business issues and their underlying causes
- Present analysis in accordance with instructions and criteria

Develop solutions

- Identify and apply relevant technical knowledge and skills to analyse a specific problem
- Use structured information to identify evidence-based solutions
- Identify creative and pragmatic solutions in a business environment
- Identify opportunities to add value
- Identify and anticipate problems that may result from a decision
- Identify a range of possible solutions based on analysis
- Identify ethical dimensions of possible solutions
- Select appropriate courses of action using an ethical framework
- Identify the solution which is the best fit with acceptance criteria and objectives
- Define objectives and acceptance criteria for solutions

How skills are assessed: students may be required to:

- assimilate significant amounts of information, to analyse it (including quantitative analysis) in a way that demonstrates relevant technical knowledge and to draw and support appropriate conclusions.

Applying judgement

Apply professional scepticism and critical thinking

- Recognise bias and varying quality in data and evidence
- Identify assumptions or faults in arguments
- Identify gaps in evidence
- Identify inconsistencies and contradictory information
- Assess interaction of information from different sources
- Exercise ethical judgement

Relate issues to the environment

- Appreciate when more expert help is required
- Identify related issues in scenarios
- Assess different stakeholder perspectives when evaluating options
- Retain an overview of the business issue or scenario
- Appraise corporate responsibility and sustainability issues
- Appraise the effects of alternative future scenarios
- Appraise ethical, public interest and regulatory issues

How skills are assessed: students may be required to:

- make sense of relatively large volumes of data, making judgments on the relevance of data for use in subsequent calculations and discussions;
- reflect on their calculations and the methodology employed and to identify and discuss the implications of calculations; and

- make and justify judgements based on earlier calculations.

Concluding, recommending and communicating

Conclusions

- Apply technical knowledge to support reasoning and conclusions
- Apply professional experience and evidence to support reasoning
- Use valid and different technical skills to formulate opinions, advice, plans, solutions, options and reservations

Recommendations

- Present recommendations in accordance with instructions and defined criteria
- Make recommendations in situations where risks and uncertainty exist
- Formulate opinions, advice, recommendations, plans, solutions, options and reservations based on valid evidence
- Make evidence-based recommendations which can be justified by reference to supporting data and other information
- Develop recommendations which combine different technical skills in a practical situation

Communication

- Present a basic or routine memorandum or briefing note in writing in a clear and concise style
- Present analysis and recommendations in accordance with instructions
- Communicate clearly to a specialist or non-specialist audience in a manner suitable for the recipient
- Prepare the advice, report, or notes required in a clear and concise style

How skills are assessed: students may be required to:

- recommend suitable courses of action in a given situation (financing decisions, dividend decisions, investment appraisal decisions); and
- incorporate advice within a 'business report' format, addressing both the strengths and weaknesses of any recommendations and/or reasons for the rejection of alternatives.

To help you develop your ability to demonstrate competency in each professional skills area, each chapter of this Workbook includes up to four Professional Skills Guidance points.

Each Professional Skills Guidance point focuses on one of the four ACA Professional Skills areas and explains how to demonstrate a particular aspect of that professional skill relevant to the topic being studied. You are advised to refer back to the Professional Skills Guidance points while revisiting specific topics and during question practice.

Chapter 1

The economic environment of business and finance

Introduction

Learning outcomes

- Specify the signalling, rewarding and allocating effects of the price mechanism on business (including the concept of price elasticity)
- Specify the potential types of failure of the market mechanism and their effects on business
- Identify the key macro-economic factors that affect businesses

Specific syllabus references are: 6a, 6b, 6c.

Syllabus links

The economic environment is relevant in Business Strategy and Technology, and Financial Management at Professional level, and at the Advanced level.

Assessment context

Questions on the economic environment will be set in the assessment in either MCQ or multiple response format. They will be either straight tests of knowledge or applications of knowledge to a scenario.

Chapter study guidance

Use this schedule and your study timetable to plan the dates on which you will complete your study of this chapter.

Topic	Practical significance	Study approach	Exam approach	Interactive questions
1 -2	**Macro-economic environment** Every business needs to be aware of the factors in the wider macroeconomic environment that will affect its operations. As your exposure to different businesses increases you will appreciate how significant the effect of the economic environment is on all areas of enterprise.	**Approach** This chapter covers the economic environment in which businesses operate. Read through section 1 quickly, then focus on section 2 on macroeconomics. There is a lot to take in here and it is a good idea to spend as long as you can on this section. **Stop and think** What effect do interest rates, exchange rates, inflation and the business cycle have on businesses? What determines how much we earn and what we pay for goods and services? What would be the effect of a key competitor going out of	Questions on the economic environment will certainly come up in your exam. Questions will be set in either a scenario context or as a test of knowledge of key principles. **Essential points are:** • Macroeconomics • The role of government, consumers, savers and businesses in the national economy • The business cycle • Inflation • Government policy on aggregate demand (monetary and fiscal policy)	

Topic	Practical significance	Study approach	Exam approach	Interactive questions
		business? How can we decide what to do when we have limited resources?	• Government supply-side policies	
3 - 6	**Market mechanism, demand, supply and market prices** While much of the information about supply and demand curves, and the establishment of a market price are somewhat theoretical, the principles (e.g. that as the price goes up, demand generally falls) are useful guides for business.	**Approach** Now read section 3 to gain an understanding of the market mechanism (demand and supply) as it applies in the microeconomic environment, then study section 4 on demand very carefully. Make sure you understand the differences in changes in demand that involve moving along the demand curve (price) and the changes that shift the whole demand curve (all other factors). Know which factors are within the control of the business. Follow through the worked example and make a good attempt at the interactive questions. Next pay the same degree of attention to section 5 on supply and its determinants. Again make sure you know the difference between the factors that involve a move along the supply curve (price) and those that involve a shift in the curve (all other factors). Only once you are happy with these topics, should you study section 6 on the equilibrium price and the various factors that impact on it.	Questions in this area may well come up and test your knowledge of the impact of the various factors on the market price of a product. **Essential points are:** • The market mechanism • Factors that influence demand • Impact of substitutes, complments and income levels on demand • Giffen goods and inferior goods • Factors that influence supply • Establishment of an equilibrium price • Effects of price regulation	**IQ1: Substitute or complementary goods?** Gives you practice in thinking about the relationships in economics **IQ2: Income distribution** helps you understand how income distribution can impact on demand for products. **IQ3 Market prices in financial markets** looks at changes in supply and demand in the financial markets. **IQ4: Price determinants** helps to think about the influences on prices in two different markets.
7	**Elasticity** Elasticity is a useful tool for measuring how a	**Approach** How far is demand affected by the various factors considered? The	There may be questions in your exam on elasticity. Not only could you be required to calculate	**IQ5: Price elasticity of demand** is an important question to

Topic	Practical significance	Study approach	Exam approach	Interactive questions
	change in the price will impact demand and revenue for a product or service. It is also useful to see that the demand for one good may be affected by the price of another.	answer to this is in section 7 on elasticity: price and income elasticity of demand, cross elasticity of demand, and price elasticity of supply are all important concepts which you must understand and be able to calculate, so study this section very closely.	elasticity, you may need to show you understand the meaning of elasticity. **Essential points are:** • Elasticity concepts and calculations • Meaning of perfect elasticity, perfect inelasticity, unitary elasticity. • Cross elasticity of demand • Positive elasticity of demand • Income elasticity of demand • Factors influencing price elasticity of demand	ensure you can calculate this. **IQ 6: Effect of PED on revenue** enables you to test your knowledge of the meaning of PED. **IQ7: Demand for a good** looks at a practical policy issue relating to the price elasticity of demand.
8 - 9	**Types of market structure** In some uncompetitive markets, suppliers may have too much power, which may not be in the public interest. This section looks at different types of market that vary in terms of the amount of competition.	**Approach** Read through section 8 on types of market structure very carefully, learning the characteristics of each type. Then study section 9 on free markets, making sure you are clear about the arguments for and against completely unregulated markets, and the reasons why markets fail. These are highly examinable topics. **Stop and think** Why are water and electricity industries regulated?	Questions on this area may come up in the exam. They tend to be mainly knowledge type questions, testing your knowledge of the different types of market, but there could be short scenario questions too, where you are asked to identify what type of market you are dealing with. **Essential points are:** • Market structures • Free markets • The four types of market failure	

Once you have worked through this guidance you are ready to attempt the further question practice included at the end of this chapter.

1 Introduction to the economic environment

Section overview

- A business's economic environment comprises the macroeconomic environment (national and global influences) and its own microeconomic environment, especially how market forces affect it.

We saw in the chapter 'Introduction to business strategy' how PESTEL analysis can help a business identify important factors in the environment in which it functions. In this chapter we shall focus on the **economic environment of business and finance**.

There are two economic environments that affect businesses:

- The **macroeconomic environment** in which all businesses have to operate, which incorporates:
  - **National influences**: the business cycle, government policies (eg, fiscal and monetary policy), interest rates, exchange rates, inflation
  - **Global influences**: internationalisation of trade, influence of regional economic groups such as the EU, globalisation of markets
- The **microeconomic environment** of the particular business, which basically involves looking at how the market (or price) mechanism works

3 The macroeconomic environment

Section overview

- The macroeconomic environment comprises firstly the national economy (GDP, factors of production, growth) and also the global economy.
- The government acts as producer, purchaser, investor and transferor in the national economy.
- The consumer's role is to consume, the level of consumption being affected by: changes in the marginal propensity to consume and disposable income; changes in wealth distribution; government policy; new technology; interest rates; price expectations. Savers are affected in an equal but opposite way.
- Investment by businesses is key to the health of the national economy. This is affected by: interest rates; expectations and business confidence; consumer demand; opportunity cost; new technology.
- The main stages of the business/trade cycle are: boom, recession, depression and recovery.
- Most governments aim for stable prices, so inflation must be kept under control.
- Types of inflation: demand-pull and cost-push (fiscal and credit).
- Policies to influence aggregate demand: monetary(interest rates) and fiscal (taxation, borrowing and spending) policy.
- Policies to influence aggregate supply: spending levels; privatisation; tax reductions; workforce amendments; deregulation/relaxing competition laws; free movement of capital.

Businesses operate in the economy as a whole and changes in the macroeconomic environment can have major implications for them.

4.1 The national economy

The amount of **national output** by firms or government agencies which produce goods and services in the national economy is measured as its **gross domestic product** or **GDP**. To create GDP four **factors of production** are employed, each of which enjoys a **return**:

Factor of production	Return
Land	Rent
Labour	Wages
Capital	Interest
Entrepreneurship	Profit

- GDP equals the amount of **expenditure** incurred by those who purchase the output:
- Consumers (or **households**)
- The government
- Foreign buyers (the **overseas sector**)

The **level of national output** is important because it is a measure of the economic activity in a country:

- It is an **aggregate of personal incomes** – the bigger this is, the more income individual inhabitants will be earning on average (assuming a stable population).
- More income means more **spending** by consumers (households) on the output of firms, and more spending (ignoring the effects of price rises) means that a higher output of goods and services is required to be produced.
- **Growth** in GDP per head of population is an economic policy objective of most, if not all, governments. The growth potential of an economy will depend on the **amount of factors of production** available, and their **productivity**.

4.1.1 The role of the government in the national economy

The government has several functions within the national economy.

- It acts as the **producer** of certain goods and services instead of privately owned firms, and the production of public administration services, education and health services, the police force, armed forces, fire services and public transport are all aspects of output. The government in this respect acts, like firms, as a producer and must also pay wages to its employees.
- It acts as the **purchaser** of final goods and services and adds to total consumption expenditure. National and local government obtain funds from the firms or households of the economy in the form of taxation and then use these funds to buy goods and services from other firms.
- It **invests** by purchasing capital goods, for example building roads, schools and hospitals.
- It makes **transfer payments** from one section of economy to another, for example by taxing working households and paying pensions, and by paying unemployment benefits and social security benefits.

4.1.2 The role of the consumer in the national economy

Definition

Disposable income: Income available to individuals after payment of personal taxes. It may be consumed or saved.

Total spending or **consumption** by households is affected by six influences.

- **Changes in disposable income, and the marginal propensity to consume**. Changes in disposable income are affected by matters such as pay rises and changes in tax rates. An increase in disposable income from a pay rise, or because of a reduction in tax rates, may simply increase consumption and have no effect on savings. If a household believes that saving is a good thing; however, it will save as much as possible of the increase, and spend as little of it as possible. How far an increase in disposable income is allocated to consumption rather than saving is known as the marginal propensity to consume (MPC).
- In the economy as a whole, a general belief in the value of saving may mean that the MPC is low. The prestige attached to the possession of consumer goods may, however, overcome the admiration for saving, making the MPC high.
- **Changes in the distribution of wealth**. Some sections of the population will have a higher MPC than others so a redistribution of wealth might affect consumption. (A redistribution of wealth might be accomplished by taxing the rich and giving to the poor in the form of more government allowances.)
- **Government policy**. Government can influence consumption levels through taxation and/or public spending. For example, an increase in direct taxation will reduce disposable income and therefore will also reduce consumption.
- **The development of major new products**. When such developments happen, they can create a significant increase in spending by consumers who want to buy the goods or services.
- **Interest rates**. Changes in interest rates will influence the amount of income that households decide to **save**, and also the amount that they might elect to **borrow** for spending. High interest rates will make saving more attractive while low interest rates will reduce the **cost of credit** and will therefore increase borrowing and levels of consumption.
- **Price expectations**. Expectations of price increases may increase current consumption while expectations of price reductions may have the opposite effect.

4.1.3 The role of the saver in the national economy

Saving is the amount of income which is not consumed. Therefore, not surprisingly, the influences which affect savings are very similar to those that affect consumption – but in mirror image.

- **Income**. The level of income will be a key determinant in the level of savings. It is difficult to save when your income is very low!
- **Interest rates and the cost of credit**. If interest rates rise, saving becomes more attractive relative to consumption. Similarly, as the cost of credit rises, borrowing becomes less attractive so as a result people will save more.
- **Long-term savings**. A large amount of household savings goes into long-term, contractual savings such as pension schemes. These savings may be less likely to vary with income than with demographics – for example, savings into pension schemes have risen alongside increases in life expectancy in developed countries.

4.1.4 The role of investment by businesses in the national economy

An **investment** involves the acquisition of more fixed capital (buildings, machinery, plant and equipment) or inventories of goods and so on. The total volume of investment in the economy, from the private sector or the public sector or both, depends on:

- The **interest rate** on capital (the price of money)
- **Expectations** about the future and business confidence, including expectations about future cash flows and profit flows arising from the investment
- The strength of **consumer demand** for goods
- The **opportunity cost** of investment
- The level of **new technology** to be invested in
- If **interest rates are high** the effects are as follows (low interest rates have a mirror image effect):
- Firms will demand a **higher return** when appraising investments and so some investments may not occur, thereby **restricting economic growth** (firms will be less willing to invest, but remember they cannot always cut their investment plans quickly and at short notice).
- Individuals will be tempted to **consume less of their income and save more**, so that they will invest more of their savings – that is, to hold less cash and more interest bearing investments.

New technology will be a **boost to investment**:

- If it **reduces the unit costs of production** via new methods of production (such as robotics) then new technology will **increase profitability**. Firms will invest in order to achieve lower costs and remain competitive.
- If it leads to **new types of good** then new technology will **stimulate demand**. Firms will invest to make the product and meet the consumer demand.

Private sector investment will come from retained earnings, new issues of shares, or borrowing (as we saw in the chapter 'Business finance'). However, in an economic recession (see below) profits might be low, and investors might lack confidence in a recovery, so that new share issues are impossible on a large scale.

Public sector investment might be financed by higher taxation, or by an increased deficit between government income and expenditure, that is, a higher **Public Sector Net Cash Requirement (PSNCR).** This might force up interest rates in the capital markets and **crowd out private sector investment**.

4.2 The business/trade cycle

Definition

Business cycles/trade cycles: The continual sequence of rapid growth in GDP, followed by a slowdown in growth and then a fall. Growth then comes again, and when this has reached a peak, the cycle turns once more.

Four main phases of the business cycle can be distinguished.

- Recession (A)
- Depression (B)
- Recovery (C)
- Boom (D)

Recession tends to occur quickly, while recovery is typically a slower process. Figure 13.1 below can be used to help explain how this is so.

4.2.1 Recession

At point **A** in Figure 13.1, the economy is **entering a recession**.

- Consumer demand falls
- Investment projects already undertaken begin to look unprofitable
- Orders are cut
- Inventory levels are reduced
- Business failures occur as firms find themselves unable to sell their goods
- Production and employment fall
- General price levels begin to fall
- Business and consumer confidence diminish
- Investment remains low
- The economic outlook appears to be poor

Recession can begin relatively quickly because of the speed with which the effects of declining demand will be felt by businesses suffering a loss in sales revenue. The knock on effects – of reducing inventory and cutting back on investment – exacerbate the situation, and add momentum to the recession.

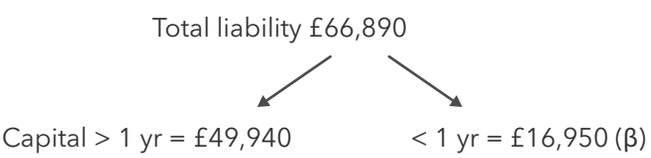

Figure 1.1: Leasing

4.2.2 Depression

Eventually, in the absence of any stimulus to demand, a period of full **depression** may set in and the economy will reach point **B**.

4.2.3 Recovery

At point **C** the economy has reached the **recovery** phase of the cycle. This can be slow to begin because of the effect of recession/depression on levels of confidence. Governments will try to limit the decline by boosting demand in the economy as a whole (we shall come back to this). Once begun, recovery is likely to quicken as confidence returns.

- Output, employment and income will all begin to rise
- Business expectations will be more optimistic so new investment will be more readily undertaken
- The rising level of demand can be met through increased production by bringing existing capacity into use and by hiring unemployed labour
- The average price level will remain constant or begin to rise slowly

Decisions to purchase new materials and machinery may lead to benefits in efficiency from new technology. This can enhance the relative rate of economic growth in the recovery phase once it is under way.

4.2.4 Boom

As recovery proceeds, the output level climbs above its trend path, reaching point **D**, in the **boom** phase of the cycle. During the boom:

- Capacity and labour will become fully used, causing bottlenecks in some industries which are unable to meet increases in demand (no spare capacity, shortage of skilled labour or key material inputs)
- Further rises in demand will therefore be met by price rather than production increases
- Business will be profitable, with few firms facing losses
- Expectations of the future may be very optimistic and the level of investment expenditure high

4.2.5 Avoiding the 'boom and bust' cycle

Governments generally seek to stabilise the economic system, trying to avoid the distortions of a widely fluctuating cycle.

- In a **recession** they will try to **boost overall demand**
- In a **boom** they will try to keep **dampen overall demand** through raising taxation or interest rates, and by reducing public expenditure
- We will come back to these points when we look at fiscal and monetary policy.

4.3 Inflation

Definitions

Inflation: An increase in price levels generally, and a decline in the purchasing power of money.

Deflation: Falling prices generally, which is normally associated with low rates of growth and recession.

4.3.1 Why is inflation a problem?

Most governments aim for **stable prices**. A high rate of price inflation is harmful and undesirable for the following reasons.

- **Redistribution of income and wealth**

Inflation leads to a redistribution of income and wealth from suppliers to customers because outstanding amounts lose 'real' value with inflation. In addition those with fixed incomes, such as pensioners and the low-paid, fare worse than those with significant earning power, as the nominal amount of a fixed income stays the same but its purchasing power falls.

- **Balance of payments effects**

If a country has a higher rate of inflation than its major trading partners, its exports will become relatively expensive and imports relatively cheap, although its exchange rate will usually alter to take account of this.

- **Price signalling and 'noise'**

Prices act as signals to both consumers and producers, affecting both demand and supply respectively. Inflation, particularly at high rates, can undermine the ability of the price mechanism to influence the allocation of resources in an economy. Business confidence is undermined because planning and forecasting are less accurate. Inflation is often referred to as 'noise' in an economy for this reason.

- **Wage bargaining**

Wage demands increase in times of high inflation. A wage/price spiral may take hold, which will reinforce the problem and valuable time is wasted negotiating new wage rates rather than producing new goods.

- **Consumer behaviour**

People may stockpile goods fearing price increases later, which could create shortages for other people. Consumers will be more anxious to consume now rather than waiting until costs rise; this will raise consumption levels and possibly push prices up even further – a spiral that can contribute to hyper-inflation (extremely high rates of inflation).

4.3.2 Types of inflation

Definitions

Demand pull inflation: Price rises resulting from a persistent excess of demand over supply in the economy as a whole. Supply cannot grow any further once 'full employment' of factors of production is reached.

Cost push inflation: Price rises resulting from an increase in the costs of production of goods and services, eg, of imported raw materials or from wage increases.

There are two main **causes of demand pull inflation**.

- **Fiscal**. An increase in government spending or a reduction in taxes will raise demand in the economy.
- **Credit**. If levels of credit extended to customers increase, perhaps because of a decrease in interest rates, expenditure is likely to rise. In this case, inflation is likely to be accompanied by customers increasing their debt burdens.

Once the rate of inflation has begun to increase, **expectational inflation** can occur. Regardless of whether the factors that have caused inflation are persistent or not, there will be a generally held view of what inflation is likely to be. To protect future income, wages and prices will therefore be raised in anticipation of the expected amount of future inflation. This can lead to the vicious circle of a **wage price spiral**, in which inflation becomes a relatively permanent feature because of people's expectations that it will occur.

4.4 Government objectives and policies

To achieve economic growth and control inflation the **macroeconomic policies** used by the government are:

- Influencing **overall demand** in the economy (**aggregate demand**) via:
  - **Monetary policy**: government policies on the money supply, the monetary system, interest rates, exchange rates and the availability of credit
  - **Fiscal policy**: government policies on taxation, public borrowing and public spending
- Influencing **overall supply** in the economy (**aggregate supply**) via **supply-side policies**

4.4.1 Monetary policy and aggregate demand

Interest rates – the price of money – are a target of monetary policy if it is considered that there is a direct relationship between interest rates and the level of expenditure in the economy, or between interest rates and the rate of inflation. In the UK, the objective of monetary policy has been principally to **reduce the rate of inflation to a sustainable low level**, though since 2008 interest rates have also

been used to support consumer spending in order first to avoid and then to shorten the recession which followed the banking crisis.

Effects of a rise in interest rates

- The **price of borrowing** in the economy will **rise**
  - If **companies** see the rise as relatively permanent, rates of return on investments will become less attractive and investment plans may be curtailed. **Spending will fall.** Corporate profits will fall as a result of higher interest payments. Companies will reduce inventory levels as the cost of having money tied up rises.
  - **Households** will reduce or postpone consumption in order to reduce borrowings, and should become less willing to borrow for house purchase. **Spending will fall.**

(Although it is generally accepted that there is likely to be a connection between interest rates and investment (by companies) and consumer expenditure**, the connection is not a stable and predictable one**, and interest rate changes are only likely to affect the level of expenditure after a **considerable time lag**.)

- The **exchange rate for sterling will be higher** than it would otherwise be. This will keep the cost of exports higher and the cost of imports will be cheaper.
- There will be **capital inflows** as foreign investors will be attracted to sterling investments.
- The reductions in spending and investment will **reduce aggregate demand in the economy**.

4.4.2 Fiscal policy and aggregate demand

Definition

Fiscal policy: The government's policy on government spending, taxation and borrowing.

- **Spending**. The government spends money at national and local levels to provide goods and services, such as a health service, public education, a police force, roads, public buildings and so on, and to pay its administrative work force. It may also, perhaps, provide finance to encourage investment by private industry, for example by means of grants. **Increased government spending** increases the size of the economy, so expenditure and therefore GDP will rise.
- **Taxation**. Expenditure must be financed, and the government must have income. Most government income comes from **taxation**, but some income is obtained from **direct charges** to users of government services such as National Health Service charges. **Increased taxation** without increased government spending reduces the size of the economy. A government might deliberately raise taxation to reduce inflationary pressures.
- **Borrowing**. The government must borrow the amount by which its expenditure exceeds its income. In the UK government this is known as the **Public Sector Net Cash Requirement (PSNCR).** Where the government borrows from has an impact on the effectiveness of fiscal policy.

The government's **'fiscal stance'** may be **neutral, expansionary** or **contractionary,** according to its effect on national income.

- **Increased borrowing** and **spending** (**expansionary** fiscal stance
- **Increased taxation** but **no increase in spending** (or **decreased borrowing** and **decreased spending**) (**contractionary** fiscal stance
- **Increased taxation** and **spending** (**broadly neutral** fiscal stance (income diverted from one part of the economy to another)

4.4.3 Supply-side macroeconomic policies

Macroeconomic demand-side intervention by government using monetary and fiscal policy may be harmful:

- **Demand management interventions** are inflationary in the long run.
- High taxes act as a **disincentive** to economic activity.
- The possibility of politically motivated policy changes creates damaging **uncertainty** in the economy, discouraging long-term investment.

The main **supply side macroeconomic policies** are:

- More **involvement of the private sector** in the provision of services

- **Reduction in taxes** in order to increase incentives to supply
- **Increasing flexibility** in the labour market by curbing the power of trade unions
- Improving **education and training** so the quality of labour and hence the economy's productive capacity are enhanced
- **Increasing competition** through deregulation and privatisation of utilities
- **Abolition of exchange controls** and allowing the free movement of capital

We shall now look at the business's **microeconomic environment**.

Professional skills focus: Assimilating and using information

You may be required to demonstrate that you can understand the impact of the economic environment on a business and its plans.

5 The market mechanism

Section overview

- In a market buyers and sellers exchange 'goods' via the market mechanism, which determines price according to the interaction of supply and demand.

Definition

Market mechanism: The interaction of demand and supply for a particular item.

6.1 What is a market?

The concept of a market in microeconomics goes beyond the idea of a single geographical place where people meet to buy and sell goods. It refers to the buyers and sellers of goods or services who influence its price. Markets can be worldwide, as in the case of oil, wheat, cotton and copper for example. Others are more localised, such as the housing market or the market for second-hand cars.

Definition

Market: A situation in which potential buyers and potential sellers (or 'suppliers') of an item (or 'good') come together for the purpose of exchange.

Markets for different goods are often inter-related. All goods compete for customers so that if more is spent in one market, there will be less to spend in other markets.

6.2 How is the market price of goods determined?

Price theory (or **demand theory** as it is sometimes referred to) is concerned with how market prices for goods are arrived at, through the **interaction** of **demand and supply**.

7 Demand

Section overview

- Demand quantifies how much of a good buyers would buy at a certain price level.
- The demand curve is usually downward sloping from left to right when price is measured on the y (vertical) axis and quantity is measured on the x (horizontal) axis. This means that a rise in price causes a fall in the quantity demanded.
- Within one demand curve only price determines the level of demand.
- Other determinants of demand will shift the demand curve left or right. These include: substitutes and complements; income levels (normal and inferior goods); fashion and expectations; advertising; income distribution.
- The level of demand can change quite rapidly in response to a change in a determinant.

8.1 What is meant by 'demand'?

Definition

Demand: The quantity of a good that potential purchasers would buy, or attempt to buy, if the price of the good were at a certain level.

If demand is satisfied, actual quantities bought equals demand. If some demand is unsatisfied, more would-be purchasers are trying to buy a good that is in insufficient supply.

8.2 The demand schedule and the demand curve

The relationship between demand for a good and the price of the good can be shown graphically as a **demand curve**. The demand curve is derived by estimating in a **demand schedule** how much of a good would be demanded at various hypothetical market prices.

Context example: Worked example: Demand schedule and demand curve

Suppose that the following demand schedule shows demand for biscuits by one household over a period of one month.

Price per Kg	Quantity demanded at this price
£	Kg
1	9.67
2	8.00
3	6.25
4	4.50
5	2.67
6	1.00

We can show this schedule graphically on a demand curve (Figure 13.2), with:

- Price on the y axis
- Quantity demanded on the x axis

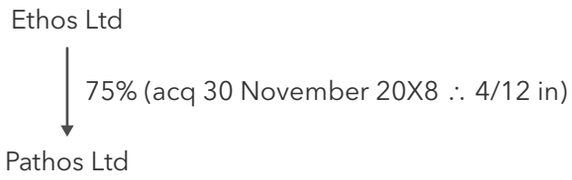

Figure 1.2: Figure 13.2: Demand for biscuits

Changes in demand caused by changes in price **only** are represented by movements **along the demand curve**, from one point on the curve to another. The price has changed, so the quantity demanded changes, but the demand curve itself stays in the same place.

A demand curve generally slopes down from left to right for the following reasons.

- For the individual consumer, a fall in the price of the good makes it relatively cheaper compared to other goods so expenditure will be shifted to the good whose price has fallen. It is the **relative price** of the good that is important. A fall in the relative price of a good increases demand for it.
- A fall in the good's price means that people with lower incomes will also be able to afford it or more of it. The overall size of the market for the good increases. The converse argument applies to an increase in prices; as a price goes up, consumers with lower incomes will no longer be able to afford the good, or will buy something else whose price is relatively cheaper, and the size of the market will shrink.

Professional skills focus: Structuring problems and solutions

You may be required to analyse market conditions. The demand curve and the price elasticity of demand (see section 7 below) can be useful tools for this.

8.3 What factors determine demand?

Several factors influence the total market demand for a good. One of these factors is obviously its **price**, but there are other factors too since people buy not just one good with their money but a whole range of goods and services.

Within the control of the business (see the chapter Managing a business):		
• Price		**Seven Ps**
• Marketing research		-Product
• Product research and development		-Price -Promotion
• Advertising		- Place
• Sales Promotion		- People
• Training and organisation of sales force		-Processes -Physical evidence
• Effectiveness of distribution		
• After sales service		
• Granting of credit to customers		

•		

Outside the control of the business

- Price of **substitute goods** (items to which the consumer will switch if the price changes)
- Price of **complementary goods** (items which the consumer buys as a result of buying the goods, such as blades for razors)
- Consumers' **income**
- **Fashion** and **expectations**

8.3.1 Price

In the case of most goods (with some exceptions, such as Giffen goods, which we will look at later), the higher the price, the lower will be the quantity demanded. It is common sense that at a higher price, a good does not give the same value for money as it would at a lower price, so people will not want to buy as much. This **dependence of demand on price applies to all goods and services**, from bread and salt to houses and satellites.

A demand curve shows how the quantity demanded will change in response to a change in price **provided that all other factors affecting demand are unchanged** – that is, provided that there is no change in the prices of other goods, tastes, expectations or the distribution of household income.

8.3.2 Other factors affecting demand

A different demand curve needs to be produced if there is a change in the other factors affecting demand. We call this a **shift of the demand curve**. If the change means that demand rises then the downward-sloping demand curve moves to the right; if demand falls then it moves to the left.

8.3.3 Inter-related goods: substitutes and complements

A change in the price of one good will not necessarily change demand for another good. For example, we would not expect an increase in the price of cocoa to affect the demand for cars. However, there are goods for which the market demand is interrelated, referred to as either **substitutes** or **complements**.

- **Substitute goods** are goods that are alternatives to each other, so that an increase in the demand for one is likely to cause a decrease in the demand for another. Switching demand from one good to another 'rival' good is **substitution**. Examples of substitute goods and services are:
  - Rival brands of the same commodity, like CocaCola and Pepsi
  - Tea and coffee
  - Bus rides and car rides
  - Some different forms of entertainment

Substitution takes place when the price of one good rises or falls relative to the substitute good.

- **Complements** are goods that tend to be bought and used together, so that an increase in the demand for one is likely to cause an increase in the demand for the other. Examples of complements are:
  - Cups and saucers
  - Holidays and travel insurance
  - Cars and the components and raw materials that go into their manufacture

Interactive question 1: Interactive question 1: Substitute or complementary goods?

What might be the effect of an increase in the ownership of domestic freezers on the demand for perishable food products?

See **Answer** at the end of this chapter.

8.3.4 Income levels: normal and inferior goods

More income gives people more to spend, so they will want to buy more goods at existing prices. However, a rise in income will not increase market demand for all goods and services. The effect of a rise in income on demand for an individual good will depend on the nature of the good.

- A rise in income may increase demand for a particular good. This is what we might normally expect to happen, so they are called **normal goods**.
- Demand for another good may rise with income up to a certain point but then fall as income rises beyond that point. Goods whose demand eventually falls as income rises are called **inferior goods:** examples might include cheap brands of sausages or wine. The reason for falling demand is that as incomes rise, demand switches to superior products, for example gourmet sausages and champagne.

8.3.5 Income distribution

Market demand for a good is influenced by the way in which the national income is shared among people. In a country with many rich and many poor households and few middle income ones, we might expect a relatively large demand for luxury cars and yachts and also for bread and potatoes. In a country with many middle-income households, we might expect high demand for medium sized cars and foreign holidays, and other 'middle income' goods.

Interactive question 2: Interactive question 2: Income distribution

What do you think might be the demand for swimming pools amongst a population of five households enjoying total annual income of £1 million, if the distribution of income is either as under assumption 1 or as under assumption 2?

	Annual income	
	Assumption 1	**Assumption 2**
	£	**£**
Household 1	950,000	200,000
Household 2	12,000	200,000
Household 3	13,000	200,000
Household 4	13,000	200,000
Household 5	12,000	200,000
	1,000,000	1,000,000

See **Answer** at the end of this chapter.

8.3.6 Fashion and expectations

A change in **fashion** will alter the demand for a product. For example, when it became fashionable to drink wine with meals, expenditure on wine increased. In addition, there may be passing 'crazes', such as football strips during the World Cup.

If consumers expect that prices will rise, or that shortages will occur, they may attempt to stock up on the product, thereby creating excess demand in the short term which will increase prices. This can then lead to panic buying. Examples include fear of war or the effect of strikes. Similarly, if prices are expected to fall, purchasing might be postponed – a potential effect of deflation in the economy.

8.4 Shifts of the demand curve

When there is a change in one of these demand determinants other than price, the relationship between demand quantity and price will also change, and there will be a different price/quantity demand schedule and so a different demand curve. We refer to such a change as a **shift of the demand curve**.

Figure 13.3 depicts a demand curve shifting to the right, from D0 to D1. For example, at a single price, price P1, demand for the good would rise from Q_0 to Q_1. This shift could be caused by any of the following:

- A rise in household income
- A rise in the price of substitutes
- A fall in the price of complements

- A positive change in tastes towards this good
- An expected rise in the price of the good

A fall in demand at each price level would be represented by a shift of the demand curve in the opposite direction: to the **left**. Such a shift may be caused by the opposite of the changes above.

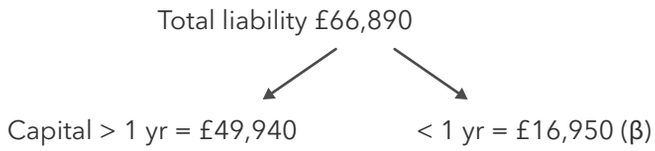

Figure 1.3: Figure 13.3: Outward shift of the demand curve

Remember that:

- **Movements along a demand curve** are caused by changes in the good's **price**.
- **Shifts of the demand curve** are caused by changes in any of the **other factors** which affect demand for a good, other than its price.

9 *Supply*

Section overview

- Supply quantifies how much of a good sellers will supply at a certain price level.
- The supply curve is usually upward sloping from left to right when price is measured on the y axis. This means that a rise in price causes a rise in the quantity supplied.
- Within one supply curve only price determines the level of supply.
- Other determinants of supply will shift the supply curve. These include: prices of other goods; prices of related goods; costs; changes in technology; other seasonal and random factors.
- For most goods and services, the level of supply changes less rapidly than demand in response to a change in a determinant.

10.1 What is meant by 'supply'?

Definition

Supply: The quantity of a good that existing suppliers or would be suppliers would want to produce for the market at a given price.

The quantity of a good that can be supplied to a market varies up or down, as a result of either:

- existing suppliers increasing or reducing their output **quantities**, or
- suppliers stopping production altogether and leaving the market, or new suppliers entering the market and starting to produce the good.

If the quantity that suppliers want to produce at a given price exceeds the quantity that purchasers demand, there will be an **excess of supply**, with suppliers **competing** to win what demand there is. Oversupply and competition result in price-competitiveness and ultimately a **fall in price**.

10.2 The supply schedule and the supply curve

A **supply schedule** and **supply curve** are constructed in a similar manner to a demand curve (from a schedule of supply quantities at different prices) but show the quantity suppliers are willing to produce at different price levels. It is an upward sloping curve from left to right, because greater quantities will be supplied at higher prices.

Worked example: Supply schedule and supply curve

The supply schedule for product Y is as follows.

Price per unit	Quantity that suppliers would supply at this price
£	Units
100	10,000
150	20,000
300	30,000
500	40,000

The relationship between supply quantity and price is shown as a supply curve in Figure 13.4.

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Figure 1.4: Figure 13.4: Supply curve

10.3 What factors influence supply?

- The **price** obtainable for the good
- The **prices of other goods**. An increase in the price of other goods would make the supply of a good whose price does not rise less attractive to suppliers, or they may want to switch to supplying something else.
- The **price of related goods** in 'joint supply'. For instance, leather and beef are related goods which are produced jointly when cattle are slaughtered. If the price of beef rises, more will be supplied and there will be an accompanying increase in the supply of leather.
- The **costs of making the good**, including raw materials costs, wages, etc. A rise in the price of one raw material will cause producers to shift away from supplying goods whose costs and profits are closely related to the price of that raw material, towards the supply of goods where the cost of that raw material is less significant.
- **Changes in technology**. Technological developments which reduce costs of production (and increase productivity) will raise the quantity of supply of a good at a given price.
- **Other factors**, such as changes in the weather in the case of agricultural goods, natural disasters or industrial disruption

The supply curve itself shows how the quantity supplied will change in response to a change in **price**, provided that all other conditions affecting supply remain unchanged. If supply conditions (the price of other goods, or costs of making the goods, or changes in technology) alter, a different supply curve must be drawn. In other words, a **change in price** will cause a **shift in supply along the supply curve**. A change in **other supply conditions** will cause **a shift of the supply curve itself**.

A shift of the supply curve as the result of a fall in costs, either in absolute terms or relative to the costs of other goods, is shown in Figure 13.5. If the market price of the good is P1, suppliers will be willing to increase supply from Q0 to Q1 under the new supply conditions.

Total liability £66,890

Capital > 1 yr = £49,940 < 1 yr = £16,950 (β)

Figure 1.5: Figure 13.5: Outward shift of the supply curve

10.4 The effect of time on supply and demand

We need to distinguish between short-run and long-run responses of both supply and demand to changes in determinants. In the **short run** both supply and demand are relatively unresponsive to changes in price, as compared to the **long run**.

- **In the case of supply**, changes in the quantity of a good supplied often require the laying off or hiring of new workers, or the installation of new machinery. These changes, brought about by management decisions, take some time to implement
- **In the case of demand**, it takes time for consumers to adjust their buying patterns, although demand often responds more rapidly than supply to changes in price or other demand conditions

Response times vary between markets. In stock markets, for example, supply and demand for company shares respond very rapidly to price changes, whereas in markets for fuel oils or agrichemicals response times are much longer.

Interactive question 3:Market prices in financial markets

In a stock market the 'products' bought and sold include shares in companies. What can you say about the supply of and demand for these 'products', and how quickly does their price change in response to changes in supply and demand factors?

See **Answer** at the end of this chapter.

Interactive question 3: Interactive question 3: Market prices in financial markets

In a stock market the 'products' bought and sold include shares in companies. What can you say about the supply of and demand for these 'products', and how quickly does their price change in response to changes in supply and demand factors?

See **Answer** at the end of this chapter.

11 *The equilibrium price*

Section overview

An efficient market brings supply and demand into equilibrium at the market price, which is where the supply and demand curves intersect.

12.1 Price signals and incentives

People who want goods only have a limited disposable income and they must decide what to buy with the money they have. The **prices** of the goods they want will affect their buying decisions (ignoring other factors).

Businesses' supply decisions will be influenced by both demand and supply considerations.

- Market demand conditions influence the **price** that a supplier will get for its output. Prices act as **signals** to suppliers, and changes in prices should stimulate a response from a supplier to change its production quantities.
- Supply is also influenced by production **costs** and profits. The objective of maximising profits provides the **incentive** for suppliers to respond to changes in price or cost by changing their production quantities.

Decisions by businesses about what industry to operate in and what markets to produce goods for will be influenced by the prices obtainable and the costs incurred. Although some businesses have been established in one industry for many years, others are continually opening up, closing down or switching to new industries and new markets. Over time, businesses in an industry might also increase or reduce the volume of goods they sell.

12.2 What is the equilibrium price?

The **market mechanism brings demand and supply into equilibrium.**

Definition

Equilibrium price: The price of a good at which the volume demanded by consumers and the volume businesses are willing to supply are the same.

This can be illustrated by drawing the market demand curve and the market supply curve on the same graph (Figure 13.6).

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↓ 75% (acq 30 November 20X8 ∴ 4/12 in)

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Figure 1.6: Figure 13.6: Market equilibrium or the equilibrium price

At price P1 in Figure 13.6, suppliers want to produce more than is demanded at that price the amount of the over-supply being equal to the distance AB. The reaction of suppliers as unsold inventories accumulate would be:

- to cut down the current level of production (reduce supply) in order to clear unwanted inventories; and/or
- to reduce prices in order to encourage sales.

The opposite will happen at price P_0, where there is an excess of demand over supply, equal to the distance CD. Output would increase and/or the price would rise.

At price P the amount that suppliers are willing to supply is equal to the amount that customers are willing to buy. There will be no unusual variation in inventory and, as long as nothing else changes, there will be no change in price. Consumers will be willing to spend a total of (P × Q) on buying Q units of the product, and suppliers will be willing to supply Q units to earn revenue of (P × Q). P is the **equilibrium price**.

The forces of supply and demand push a market to its equilibrium price and quantity.

- If there is no change in the determinant of supply or demand, the **equilibrium price** will rule the market and will remain stable.
- If the equilibrium price does not rule, the market is in **disequilibrium**, but supply and demand will push prices towards the equilibrium price.
- Shifts in the supply curve or demand curve because of determinants other than price will **change the equilibrium price and quantity**.

12.3 Adjustments to equilibrium

Equilibrium price, supply and demand must adjust following a shift of the demand or supply curve. There are four possibilities, therefore, which are illustrated by Figure 13.7.

Increase in consumer incomes

- Product becomes unfashionable

Total liability £66,890

↙ ↘

Capital > 1 yr = £49,940 < 1 yr = £16,950 (β)

Figure 1.7: Figure 13.7a: Adjustments in equilibrium

- **Prediction**
- Rise in market price

- Rise in quantity supplied
- **Prediction**
- Fall in market price
- Fall in quantity supplied
- Improvement in production technology
- Rise in factor costs

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Figure 1.8: Figure 13.7b: Adjustments in equilibrium

- **Prediction**
- Fall in market price
- Rise in quantity supplied
- **Prediction**
- Rise in market price
- Fall in quantity supplied

Interactive question 4:Price determinants

Explain, in detail, what conditions will determine price in:

- a retail fruit and vegetable market; and
- an auction of antiques and paintings.

See **Answer** at the end of this chapter.

Interactive question 4: Interactive question 4: Price determinants

Explain, in detail, what conditions will determine price in:

(1) a retail fruit and vegetable market; and

(2) an auction of antiques and paintings.

See **Answer** at the end of this chapter.

12.4 Price regulation

The regulation of prices by government provides an illustration of how demand and supply analysis can be applied. Government might introduce regulations either:

- to set a **maximum price** for a good, perhaps as part of an anti inflationary economic policy (such as a prices and incomes policy) so that suppliers cannot charge a higher price even if they wanted to; or
- to set a **minimum price** for a good below which a supplier is not allowed to fall. For example, OPEC (the Organisation of Petroleum Exporting Countries) in the past attempted to impose minimum prices for oil on the world markets.
- The government may try to prevent prices of goods rising by establishing a maximum price.
- If this price is **higher than the equilibrium price**, its existence will have no effect at all on the operation of market forces.
- But if the maximum price is **lower than what the equilibrium price would be**, there will be an excess of demand over supply. The low price attracts customers, but deters suppliers so supply will fall unless there is scope for the market to exist outside government-sanctioned channels – a so-called 'black market'.

13 Elasticity

Section overview

- Price elasticity of demand (PED) measures how far demand for a good will change in response to a change in its price.
- The PED of a good is affected by: the availability of substitutes; time; pricing by competitors; whether it is a necessity or a luxury; what percentage of income is spent on it; whether it is habit-forming.
- Income elasticity of demand measures how far demand for a good will change in response to a change in income levels.
- Some goods are cross-elastic, so there is a relationship between a change in price for one good and a change in demand for the other.
- Price elasticity of supply measures how far supply of a good will change in response to a change in its price.

Definition

Elasticity: The extent of a change in demand and/or supply given a change in price.

14.1 Price elasticity of demand

If prices went up by 10% would the quantity demanded fall by 5%, 20%, 50% or what? **Price elasticity of demand (PED)** is a measure of the extent of change in demand for a good in response to a change in its price. It is measured as:

$$\text{PED} = \frac{\text{Change in quantity demanded, as a percentage of original demand}}{\text{Change in price, as a percentage of original price}}$$

Since demand usually increases when the price falls, and decreases when the price rises, elasticity usually has a negative value. It is usual to ignore the minus sign, therefore, but note that there are types of goods where elasticity is actually positive (we shall come back to this).

$$\text{PED} = \frac{\text{Proportional change in quantity}}{\text{Proportional change in price}}$$

$$= \left[\frac{Q2-Q1}{Q1}\right] \div \left[\frac{P2-P1}{P1}\right]$$

(Where P_1, Q_1 are the initial price and quantity; P_2, Q_2 are the subsequent price and quantity.)

PED less than 1 = inelastic demand

PED more than 1 = elastic demand

PED = 1 = unit elasticity

Worked example: Worked example: Price elasticity of demand

The price of a good is £1.20 per unit and annual demand is 800,000 units. Market research indicates that an increase in price of 10 pence per unit will result in a fall in annual demand of 70,000 units.

Requirement

Calculate the elasticity of demand when the price is £1.20.

Solution

At a price of £1.20, annual demand is 800,000 units. For a price rise:

$$\text{\% change in quantity} \quad \frac{70{,}000}{800{,}000} \times 100\% = 8.75\% \text{ (fall)}$$

$$\text{\% change in price} \quad \frac{10\text{p}}{120\text{p}} \times 100\% = 8.33\% \text{ (rise)}$$

$$\text{Price elasticity of demand at price £1.20} = \frac{-8.75}{8.33} = -1.05$$

Ignoring the minus sign, the price elasticity at this point is 1.05. Demand is **elastic** at this point, because the elasticity is greater than one.

Interactive question 5: Interactive question 5: Price elasticity of demand

Using the same details and assuming that the demand curve is a straight line, calculate the elasticity of demand when the price is £1.30.

See **Answer** at the end of this chapter.

14.2 Elastic and inelastic demand

The value of price elasticity of demand may be anything from zero to infinity. Demand is referred to as:

- **inelastic** if the absolute value is less than 1; and
- **elastic** if the absolute value is greater than 1.

Think about what this means.

- Where demand is **inelastic**, the quantity demanded changes by a **smaller percentage** than the percentage change in price.
- Where demand is **elastic**, demand changes by a **larger percentage** than the percentage change in price.

14.2.1 Special values of price elasticity of demand

There are three special values of price elasticity of demand: 0, 1 and infinity.

- **Demand is perfectly inelastic:** PED = 0. There is no change in quantity demanded, regardless of the change in price. This is the case where the demand curve is a **vertical straight line**.
- **Demand is perfectly elastic:** PED = (infinitely elastic). Consumers will want to buy an infinite amount, but only up to a particular price level. Any price increase above this level will reduce demand to zero. This is the case where the demand curve is a **horizontal straight line**.
- **Unit elasticity of demand:** PED = 1. The percentage change in quantity demanded is equal to the percentage change in price. **Demand changes proportionately to a price change**.

14.3 What is the significance of price elasticity of demand?

The price elasticity of demand is relevant to **total spending** on a good or service, which in turn is a matter of interest to **suppliers**, to whom sales revenue accrues, and **government**, which may receive a proportion of total expenditure in the form of taxation.

- When demand is **elastic**, an **increase** in price will result in a **fall in the quantity demanded** such that **total expenditure will fall**.
- Demand **inelasticity** above zero means an **increase** in price will still result in a **fall in quantity demanded**, but **total expenditure will rise**.
- With **unit elasticity**, expenditure will stay **constant** given a change in price.

Information on price elasticity of demand therefore indicates how consumers can be expected to respond to different prices, so the effect of different prices on total revenue and profits can be predicted.

Interactive question 6:Effect of PED on revenue

Product A currently sells for £5, and demand at this price is 1,700 units. If the price fell to £4.60, demand would increase to 2,000 units.

Product B currently sells for £8 and demand at this price is 9,500 units. If the price fell to £7.50, demand would increase to 10,000 units.

In each of these cases, calculate:

- the price elasticity of demand (PED) for the price changes given; and
- the effect on total revenue, if demand is met in full at both the old and the new prices, of the change in price.

See **Answer** at the end of this chapter.

Professional skills focus: Concluding, recommending and communicating

If you are asked about any increase in price, consider the elasticity of demand. If elasticity of demand is less than 1, any increase in the price will lead to higher revenue

Interactive question 6: Interactive question 6: Effect of PED on revenue

Product A currently sells for £5, and demand at this price is 1,700 units. If the price fell to £4.60, demand would increase to 2,000 units.

Product B currently sells for £8 and demand at this price is 9,500 units. If the price fell to £7.50, demand would increase to 10,000 units.

In each of these cases, calculate:

(1) the price elasticity of demand (PED) for the price changes given; and

(2) the effect on total revenue, if demand is met in full at both the old and the new prices, of the change in price.

See **Answer** at the end of this chapter.

14.3.1 Positive price elasticities of demand: Giffen goods and Veblen goods

When the price of a good rises, there may be a **substitution effect**: consumers will buy other goods instead because they are now relatively cheaper. But there will also be an **income effect** in that the rise in price will reduce consumers' real incomes, and will therefore affect their ability to buy goods and services. The 19th century economist Sir Robert Giffen observed that this income effect could be so great for certain basic goods (called **Giffen goods)** that the demand curve may be upward sloping. The price elasticity of demand in such a case would be positive.

Giffen observed that among the labouring classes of his day, consumption of bread rose when its price rose. This happened because the increase in price of this commodity, which made up a high proportion of individuals' consumption, had a significant effect on real incomes: people had to increase their consumption of bread because they could not afford other foods to supplement their diets.

The demand curve for a good might also slope upwards if it is bought **for purposes of ostentation**, so that having a higher price tag makes the good more desirable to consumers and thus increases demand. Such goods are sometimes called **Veblen goods**.

14.4 Factors influencing price elasticity of demand for a good

Factors that determine price elasticity of demand are similar to the factors – other than price – that affect the volume of demand. The PED is really a **measure of the strength of these other determinants of demand**.

14.4.1 Availability of substitutes

The **more substitutes** there are for a good, especially close substitutes, the **more elastic** will be the price elasticity of demand for the good. For example, in a supermarket, a rise in the price of one

vegetable such as carrots is likely to result in a switch of customer demand to other vegetables, many vegetables being fairly close substitutes for each other. This factor is probably the most important influence on price elasticity of demand.

14.4.2 The time horizon

Over time, consumers' demand patterns are likely to change, and so if the price of a good is increased, the initial response might be very little change in demand (inelastic demand) but then as consumers **adjust their buying habits** in response to the price increase, demand might fall substantially. The time horizon influences elasticity largely because the longer the period of time which we consider, the greater the knowledge of substitution possibilities by consumers and the greater provision of substitutes by suppliers.

14.4.3 Competitors' pricing

If the response of competitors to a **price increase** by one business is to **keep their prices unchanged**, the supplier raising its prices is likely to face **elastic** demand for its goods at higher prices. If the response of competitors to a **reduction in price** by one supplier is to **match the price reduction** themselves, the supplier is likely to face **inelastic** demand at lower prices. This is a situation which probably faces many large suppliers with one or two major competitors.

14.4.4 Luxuries and necessities

Necessities tend to have a **more inelastic** demand curve, whereas **luxury** goods and services tend to be **more elastic**.

14.4.5 Percentage of income spent on a good

The **smaller** the percentage of an individual's income spent on purchasing the good, the **more inelastic** demand will be.

14.4.6 Habit-forming goods

Goods such as cigarettes and alcohol tend to be **inelastic** in demand. Preferences are such that habitual consumers of certain products become desensitised to price changes.

Interactive question 7: Interactive question 7: Demand for a good

Under a health strategy, the UK government wishes to increase the purchase of organic food by consumers by 3% in volume terms. UK government economists have analysed data which reveal that the price elasticity of demand for organic food is –1.6.

By how much should the government encourage suppliers to change the price of organic food, assuming all other determinants of demand remain the same?

See **Answer** at the end of this chapter.

14.5 Income elasticity of demand

Definition

Income elasticity of demand: An indication of the responsiveness of demand to changes in household incomes.

$$\text{Income elasticity of demand} = \frac{\text{\% change in quantity demanded}}{\text{\% change in household incomes}}$$

- Demand for a good is **income elastic** if income elasticity is greater than 1, so that quantity demanded rises by a larger percentage than the rise in income. For example, if the demand for downloads will rise by 10% if household incomes rise by 7%, we would say that the demand for downloads is income elastic. These are **luxury goods**.
- Demand for a good is **income inelastic** if income elasticity is between 0 and 1 and the quantity demanded rises less than the proportionate increase in income. For example, if the demand for baked beans will rise by 6% if household incomes rise by 10%, we would say that the demand for baked beans is income inelastic. These are **normal goods** or **necessities**.

- Demand for a good is negatively income elastic where, in response to an increase in income, demand actually falls. These are **inferior goods**. An example could be coach travel, where passengers might switch to faster, but more expensive, trains as their income rises.

14.6 Cross elasticity of demand

Definition

Cross elasticity of demand: A measure of the responsiveness of demand for one good to changes in the price of another good.

$$\text{Cross elasticity of demand} = \frac{\text{\% change in quantity of good A demanded *}}{\text{\% change in the price of good B}}$$

*(given no change in the price of A)

Cross elasticity depends upon the degree to which goods are substitutes or complements.

- If the two goods are **substitutes**, such as tea and coffee, cross elasticity will be positive, so a rise in the price of one will increase the amount demanded of the other.
- If the goods are **complements**, such as real coffee and cafetieres, cross elasticity will be negative, so a rise in the price of one will decrease demand for the other.
- For **unrelated goods**, such as tea and oil, cross elasticity will be 0.

14.7 Price elasticity of supply

Definition

Price elasticity of supply: A measure of the responsiveness of supply to a change in price.

$$\text{Price elasticity of supply (PES)} = \frac{\text{\% change in quantity supplied}}{\text{\% change in price}}$$

- Where the supply of goods is fixed whatever price is offered, for example in the case of antiques, vintage wines and land, supply is **perfectly inelastic** and the elasticity of supply is zero. The supply curve is a vertical straight line.
- Where the supply of goods varies proportionately with the price, there is **unit elasticity of supply** and the supply curve is an upward slope passing through the origin.
- Where the producers will supply any amount at a given price but none at all at a slightly lower price, elasticity of supply is infinite, or **perfectly elastic**. The supply curve is a horizontal straight line.

14.7.1 Elasticity of supply and time

As with elasticity of demand, the elasticity of supply for a product varies according to the time period over which it is measured. Three lengths of time period may be considered.

- **The market period** is so short that supplies of the product in question are limited to existing inventory. In effect, supply is fixed.
- **The short run** is a period long enough for supplies of the product to be altered by increases or decreases in current output, but not long enough for the long-term plant and machinery used in production to be altered. This means that suppliers can produce larger quantities only if they are not already operating at full capacity; they can reduce output fairly quickly by means of layoffs and redundancies.
- **The long run** is a period sufficiently long to allow suppliers' long-term equipment to be altered. There is time to build new factories and machines, and time for old ones to be closed down. New suppliers can enter the industry in the long run.

15 Types of market structure

Section overview

- The market for a good may be structured on the following lines: perfect competition; monopoly; monopolistic competition; oligopoly (including duopoly).

Definition

Market structure: A description of the number of buyers and sellers in a market for a particular good, and their relative bargaining power.

16.1 Perfect competition

Perfect competition is characterised by:

- **Many** small (in value) buyers and sellers which, individually, cannot influence the market price
- **No barriers** to entry or exit, so businesses are free to enter or leave the market as they wish
- **Perfect information** such that production methods and cost structures are identical
- **Homogeneous** (identical) products
- **No collusion** between buyers or sellers

The consequences of perfect competition include:

- Suppliers are **'price takers'** not 'price makers', that is they can sell as much as they want but only at the market-determined price.
- All suppliers only earn **'normal' profits**.
- There is a **single selling price** (see Figure 13.8).

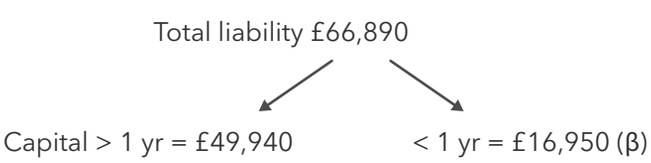


Figure 1.9: Figure 13.8: Perfect competition – demand curve

Perfect competition is often seen as an ideal state (for consumers) but very rarely if ever occurs in practice, mainly due to the fact that:

- There are often **barriers to entry**
- There is **asymmetric information** (see the chapter 'Governance and ethics' for an example of this in the financial markets)
- Goods are **differentiated**
- There may be **collusion**

We shall see more about these issues a little later.

16.2 Monopoly

Monopoly is characterised by:

- **One supplier** (or one dominant supplier)
- **Many buyers**
- **Barriers** to entering the industry, for instance the capital cost of setting up a national grid of electricity would be prohibitive for most businesses. Other barriers include:

- Patent protection
- Access to unique resources
- Unique talent
- Public sector monopoly
- Size domination of market

The consequences of monopoly include:

- The fact that businesses can EITHER **set the selling price** OR **determine the quantity supplied**, but the market will determine the other factors
- Monopolists can earn greater than normal profits (**'supernormal profits'**)

Monopolies can be further classified as follows:

- A **pure monopoly** is a monopoly by virtue of there being only one supplier in the market.
- An **actual monopoly** is a monopoly by virtue of there being one supplier with a dominant market share.
- A **government franchise monopoly** is a pure monopoly that has arisen specifically by virtue of a government deciding to operate in that way.
- A **natural monopoly** is a monopoly that arises by virtue of the market displaying such high levels of fixed costs and low marginal costs (eg, public utilities) that economies of scale are such that there is no fear of entry into the market from others.

Monopolies are usually (but not always) seen as operating against the interests of consumers, so there is extensive **regulation** to control them (see the chapter 'External regulation of business').

16.3 Monopolistic competition

Monopolistic competition is characterised by:

- **Many** buyers and sellers (as in perfect competition)
- **Some differentiation** between products (not homogeneous as in perfect competition)
- **Branding** of products to achieve this differentiation
- Some (but not total) **customer loyalty**
- **Few barriers** to entry
- Significant **advertising** in many cases

Examples include:

- Pubs
- Hairdressers
- In both cases, customers display a loyalty or preference to one supplier so that they will not switch purely on price, as they would do in perfect competition.

Consequences include:

- Increases in prices cause loss of some customers
- Only normal profit earned in the long run (as in perfect competition)

16.4 Oligopoly

Oligopoly is characterised by:

- **A few large sellers but many (often small) buyers**
- Product **differentiation**
- A high degree of **mutual interdependency**

Examples include:

- The oil industry (Shell, Esso, BP)
- Banking (Lloyds, HSBC, Barclays)
- Washing powder (P&G, Unilever)

Consequences include:

- Businesses compete through **non-price competition**, particularly advertising and branding

- **Price cuts** are generally **copied** by competitors
- **Price increases** are not always copied

16.4.1 Duopoly

Duopoly is characterised by:

- **Two** dominant suppliers who between them control prices
- A temptation for the two suppliers to act in **collusion** (which is an illegal breach of competition laws in most countries)

Consequences include **higher prices** as competition is very limited.

17 *The failure of perfect competition*

Section overview

- Free markets are often seen as efficient in resource allocation.
- This efficiency may be allocative or productive.
- However, markets can and do fail because of: market imperfections (monopoly, monopsony, asymmetric information, and slowness of response); externalities; public goods; economies of scale (internal and external).
- Internal economies of scale arise from: specialisation of labour; division of labour; larger and more specialised machinery; dimensions; buying economies; indivisibility of operations; holding inventory.

18.1 Is perfect competition (a free market) the best structure?

The following arguments are put forward by **advocates of the free market**.

- Free markets are **efficient**. Suppliers and buyers react fairly quickly to changes in market conditions in making their output and purchasing decisions; **resource allocation** within the economy is quick to adapt to the new conditions.
- Free markets are **impersonal**. Prices and levels of output are arrived at as a result of numerous decisions by consumers and suppliers, and not as the result of regulation or central planning.
- The market forces of supply and demand result in an efficient **allocation of economic resources**.
  - Buyers will want lower prices and suppliers will want higher prices, and a balance of supply and demand is struck in the market through the price mechanism.
  - Suppliers will decide what goods to supply, and in what quantities, by relating their prices to the costs of production (and the costs of the scarce resources needed to produce them).
  - If the price of a product is too high, buyers will want to buy less of it. If the price is too low, producers will make less of it and switch their production resources into making something different.

In this context, there are two **types of potential efficiency**:

- **Allocative efficiency** is achieved when goods and services that are wanted by buyers are produced in optimum quantities. Allocative efficiency occurs when resources are allocated in such a way that it is impossible to re-allocate factors of production to increase overall benefit.
- **Productive efficiency** is achieved when the economy produces its goods and services at the lowest factor cost. It occurs when factors of production are organised in such a way that the average cost of production is at its lowest point.

However, the arguments in favour of a free market are based on the assumption that there is **'perfect competition'**, including:

- A **large number of competing suppliers**, each producing a **homogeneous product** and each having only a **small share of the market**

- Buyers and suppliers having **perfect information** about markets and prices
- There is **perfect mobility of factors of production**, which can be switched easily from making one type of good into making another
- There is **free entry and exit** of suppliers into and out of the market

In reality, these assumptions are often not valid. Instead, the **free market often fails to allocate resources efficiently**.

18.2 Market failure

Definition

Market failure: A situation in which a free market mechanism fails to produce the most efficient (the 'optimum') allocation of resources.

Market failure is caused by a number of factors:

- **Market imperfection** with one, or a few, suppliers exerting **market power**
- **Externalities**
- The existence of **public goods** and benefits that are gained by third parties
- **Economies of scale**. Large-scale production leads to reductions in costs per unit, which are not matched by price reductions. This leads to above-normal profits and enables large companies to dominate smaller companies.

18.3 Market imperfection

Market imperfection describes any situation where actual behaviour in the market differs from what it would be if there were 'perfect' competition in the market. The following are examples of market imperfection.

- If a **monopoly** supplier controls a market, it might prevent other suppliers from entering the market (for example, by claiming patent rights, or launching a strong marketing campaign with the intention of keeping customers away from the new suppliers). By restricting supply in this way, the monopolist may keep prices higher than they would be in a competitive market, and/or may cause customers to have to put up with poorer goods than might be available in a competitive market.
- Just as monopolies are suppliers which dominate supply to a market, **monopsony** buyers are large individual buyers who dominate demand in a market. Monopsonists may exert control over the market, extracting low prices or other favourable conditions from suppliers. An example sometimes quoted is the immense buying power built up by large supermarkets.
- Consumers may make bad purchasing decisions because they have **incomplete** and **inaccurate,** or **asymmetric**, **information** about all goods and services that are available.
- It takes time for the price mechanism to work. Firms cannot suddenly enter a new market or shut down operations. The **slow response of the price mechanism to changes in demand** creates some short-run inefficiency in resource allocation.

18.4 Externalities

In a free market, suppliers and buyers make their output and buying decisions for their own private benefit, and these decisions determine how the national economy's scarce resources will be allocated to production and consumption. Private costs and private benefits, as opposed to social costs and benefits, therefore determine what goods are made and bought in a free market.

- **Private cost** measures the cost **to the supplier** of the resources it uses to produce a good.
- **Private benefit** measures the benefit obtained directly by a supplier or by a buyer.
- **Social cost** measures the **cost to society as a whole** of the resources that a supplier uses.
- **Social benefit** measures the total benefit obtained, both directly by a supplier or a buyer, and indirectly (at no extra cost), by other suppliers or buyers.

It can be argued that a free market system would result in a satisfactory allocation of resources, **provided that** private costs are the same as social costs and private benefits are the same as social

benefits. In this situation, suppliers will maximise profits by supplying goods and services that benefit customers, and that customers want to buy. By producing their goods and services, suppliers are giving benefit to both themselves and the community.

However, there are instances when either:

- suppliers or buyers do things which give benefit to others, but no reward to themselves; or
- suppliers or buyers do things which are harmful to others, but at no cost to themselves.

When private cost is not the same as social cost, or when private benefit is not the same as social benefit, an allocation of resources which reflects private costs and benefits only may not be socially acceptable. Here are some examples of situations where **private cost and social cost differ**.

- A supplier produces a good and, during the production process, **pollution** is discharged into the air. The private cost to the supplier is the cost of the resources needed to make the good. The social cost consists of the private cost plus the additional 'costs' incurred by other members of society, who suffer from the pollution.
- The private cost of transporting goods by road is the cost to the haulage company of the resources used to provide the transport. The social cost would consist of the private cost plus the social cost of **environmental damage**, including the extra cost of repairs and maintenance of the road system, which sustains serious damage from heavy goods vehicles.

Here are some examples of situations where **private benefit and social benefit differ**.

- Customers at a café in a piazza benefit from the entertainment provided by professional musicians, who are hired by the café. The customers of the café are paying for the service in the prices they pay, and they obtain a private benefit from it. At the same time, other people in the piazza, who are not customers of the café, might stop and listen to the music. They will obtain a benefit, but at no cost to themselves. They are **free riders**, taking advantage of the service without contributing to its cost. The social benefit from the musicians' service is greater than the private benefit to the café's customers.
- A large firm pays for the training of employees as accountants, expecting a certain proportion of these employees to leave the firm in search of a better job once they have qualified. The **private benefits** to the firm are the benefits of the training of those employees who continue to work for it. The total **social benefit** includes the enhanced economic output resulting from the training of those employees who go to work for other firms.

18.4.1 What is an externality?

Definition

Externality: The difference between the private and the social costs, or benefits, arising from an activity. Less formally, an 'externality' is a cost or benefit which the market mechanism fails to take into account because the market responds to purely private signals. One activity might produce both harmful and beneficial externalities.

Interactive question 8: Interactive question 8: Externality

Much Wapping is a small town where a municipal swimming pool and sports centre have just been built by a private company. Which of the following is an external benefit of the project?

A The increased trade for local shops

B The increased traffic in the neighbourhood

C The increased profits for the private company

D The increased building on previously open land in an inner city area

See **Answer** at the end of this chapter.

18.5 Public goods

Some goods, by their very nature, involve so much 'spill over' of externalities that they are difficult to provide except as **public goods** whose production is organised by the government.

In the case of public goods, the consumption or use of the good by one individual or group does not significantly reduce the amount available for others. Furthermore, it is often difficult or impossible to exclude anyone from its benefits, once the good has been provided. As a result, in a free market individuals benefiting from the good would have no economic incentive to pay for it, since they might as well be 'free riders' if they can, enjoying the good while others pay for it.

National defence is perhaps the most obvious example of public good. It is obviously not practicable for individuals to buy their own defence systems. Policing is another example, although the growth of private security firms illustrates how some areas of policing are becoming 'privatised'.

18.6 Economies of scale

When large companies are able to produce goods at a low unit cost because of economies of scale, but either do not pass these savings onto buyers, or use the advantage to dominate smaller companies, there is a market failure to allocate resources efficiently.

18.6.1 Reasons for economies of scale

The economies of scale attainable from large scale production may be categorised as:

- **internal economies**: economies arising within the business from the organisation of production; or
- **external economies**: economies attainable by the business because of the growth of the industry as a whole.

Internal economies of scale arise from the more effective use of available resources, and from increased specialisation, when production capacity is enlarged.

- **Specialisation of labour**. In a large undertaking, a highly skilled worker can be employed in a job which makes full use of their skills. In a smaller undertaking, individuals must do a variety of tasks, none of which they may do very well ('Jack-of-all-trades – master of none').
- **Division of labour**. Because there is specialisation of labour there is also division of labour, ie, work is divided between several specialists, each of whom contributes their share to the final product. A building will be constructed, for example, by labourers, bricklayers, plumbers, electricians, plasterers and so on. Switching between tasks wastes time, and division of labour avoids this waste.
- Large undertakings can make use of **larger and more specialised machinery**. If smaller undertakings tried to use similar machinery, the costs would be excessive because the machines would become obsolete before their physical life ends (ie, their economic life would be shorter than their physical life). Obsolescence is caused by falling demand for the product made on the machine, or by the development of newer and better machines.
- **Dimensional economies of scale** refer to the relationship between the volume of output and the size of equipment (eg, storage tanks) needed to hold or process the output. The cost of a container for 10,000 gallons of product will be much less than 10 times the cost of a container for just 1,000 gallons.
- **Buying economies** may be available, reducing the cost of material purchases through bulk purchase discounts.
- **Indivisibility of operations**. There are operations which:
  - Must be carried out at the same cost, regardless of whether the business is small or large; **average** fixed costs always decline as production increases
  - Vary a little, but not proportionately, with size (ie, 'semi-fixed' costs)
  - Are not worth considering below a certain level of output (eg, advertising campaigns)
- **Holding inventory** becomes more efficient. The most economic quantities of inventory to hold increase with the scale of operations, but at a lower proportionate rate of increase.

External economies of scale occur as an **industry** grows in size. For example:

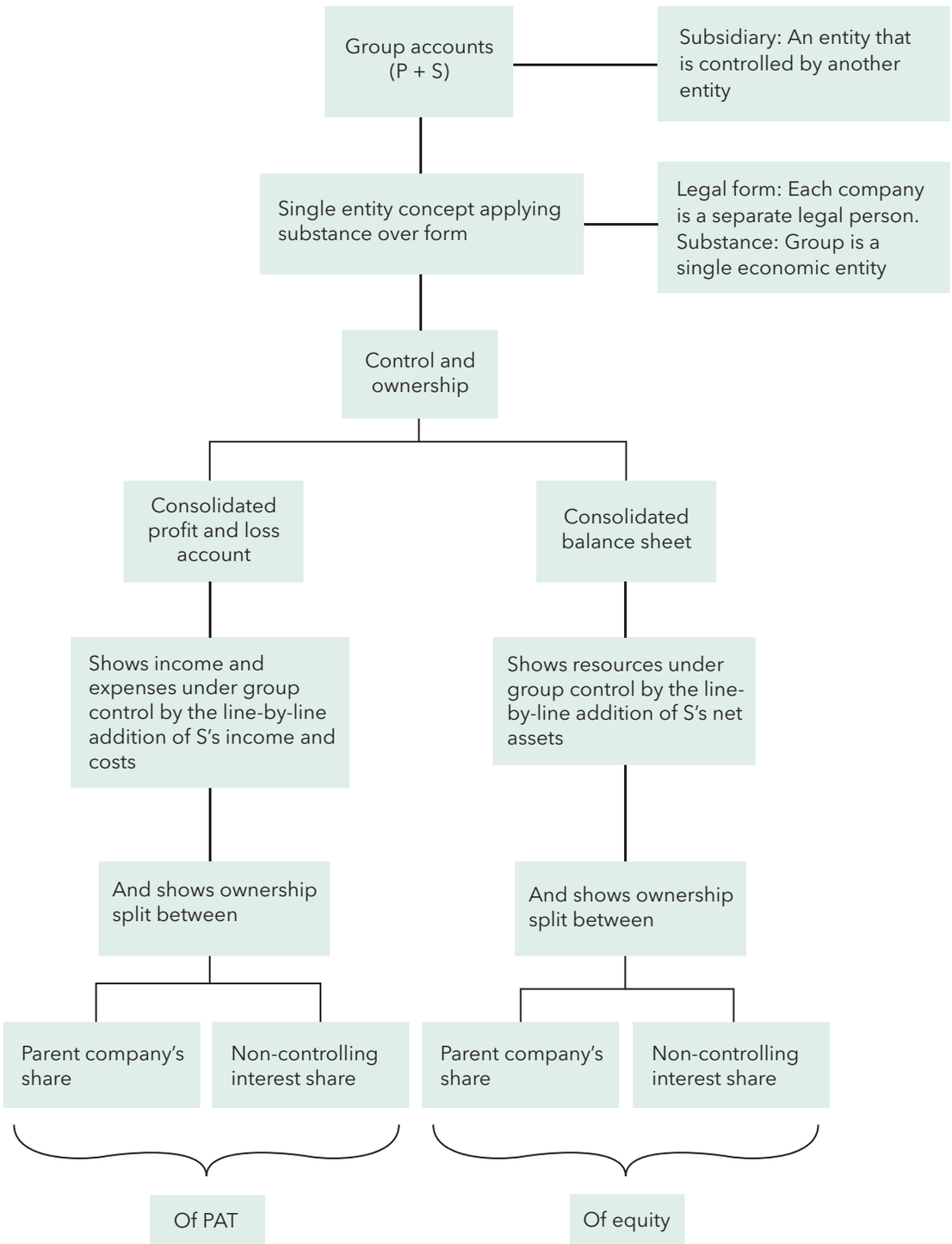
- A large skilled **labour force** is created and educational services can be geared towards training new entrants
- Specialised **ancillary industries** develop to provide components, transport finished goods, trade in by-products, provide special services and so on – for instance, law firms may be set up to specialise in the affairs of the industry

The extent to which both internal and external economies of scale can be achieved will vary from industry to industry, depending on the conditions in that industry. In other words, large sized firms are better suited to some industries than others.

- **Internal economies of scale** are potentially more significant than external economies to a supplier of a product or service for which there is a **large consumer market**. It may be necessary for a supplier in such an industry to grow to a certain size in order to benefit fully from potential economies of scale, and thereby be cost competitive and capable of making profits and surviving.
- **External economies of scale** are potentially significant to smaller businesses which specialise in **ancillary services** to a larger industry. For example, the development of a large worldwide industry in drilling for oil and natural gas offshore led to the creation of many specialist suppliers, making drilling rigs and various types of equipment. Thus, a specialist business may benefit more from the market demand created by a large customer industry than from its own internal economies of scale.

Where market failure is likely, governments may regulate industries. You need to be aware of regulatory issues that could impact a business.

Summary


Group accounts (P + S)
Subsidiary: An entity that is controlled by another entity
Single entity concept applying substance over form
Legal form: Each company is a separate legal person. Substance: Group is a single economic entity
Control and ownership
Consolidated profit and loss account
Consolidated balance sheet
Shows income and expenses under group control by the line-by-line addition of S's income and costs
Shows resources under group control by the line-by-line addition of S's net assets
And shows ownership split between
And shows ownership split between
Parent company's share
Non-controlling interest share
Parent company's share
Non-controlling interest share
Of PAT
Of equity

Further question practice

1 Knowledge diagnostic

Before you move on to question practice, complete the following knowledge diagnostic and check you are able to confirm you possess the following essential learning from this chapter. It not, you are advised to revisit the relevant learning from the topic indicated.

Confirm your learning
1. Can you define the term gross domestic product (GDP)? (Topic 2)
2. Do you know the four main phases of the business cycle? (Topic 2)
3. Do you know what monetary and fiscal policy involve? (Topic 2)
4. Do you know what a shift in the demand curve means and can you name some factors that might lead to shifts? (Topic 4)
5. Do you know what factors influence the supply of goods? (Topic 5)
6. Can you explain the meaning of equilibrium price (market equilibrium)? (Topic 6)
7. Can you understand how a shift in the demand curve to the left or to the right will affect the equilibrium price of a product? (Topic 6)
8. Do you know how to calculate the price elasticity of demand, and can you interpret its meaning? (Topic 7)
9. Can you state the characteristics of perfect competition? (Topic 8)
10. Do you know the meaning of monopoly, monopolistic competition, oligopoly, and duopoly? (Topic 8)
11 Can you explain allocative efficiency and productive efficiency? (Topic 8)
12 Can you state four factors that might contribute to market failure? (Topic 9)

2 Chapter Self-test question practice

Aim to complete all self-test questions at the end of this chapter. Once completed, attempt all questions in Chapter 13 of the Business, Technology and Finance Question Bank and refer back to the learning in this chapter for any questions which you do not answer correctly and the suggestion solution has not provided sufficient explanation to answer all your queries. Once you have attempted these questions, you can move onto the next chapter, Chapter 14, External regulation of business.

Self-test questions

Answer the following questions.

- In terms of the economic environment, the business cycle is part of:
  - A national influences in the macroeconomic environment
  - B global influences in the macroeconomic environment
  - C the microeconomic environment of the firm
  - D the price mechanism in the microeconomic environment of the firm

. ch **three** of the following are determinants of demand?
  - A Price
  - B Cost of production
  - C Income levels
  - D Changes in production technology
  - Fashion

. Grets and Pands are substitutes. Which of the following statements will be true?
  - A A rise in the price of Grets will lead to a rise in demand for Pands
  - B A rise in the price of Pands will lead to a rise in demand for Pands
  - C A fall in the price of Grets will lead to a rise in demand for Pands
  - D A fall in the price of Pands will lead to a fall in demand for Pands

. n demand for a good rises as incomes rise but then falls back as incomes pass a certain point, the good is termed:
  - A giffen
  - B normal
  - C inferior
  - veblen

. A shift of the demand curve to the right could be caused by which of the following conditions?
  - A A rise in household income
  - B A negative change in tastes for the goods
  - C A fall in the price of a substitute
  - D A rise in the price of a complement

. n there is a fall in factor costs the effect will be:
  - A to shift the supply curve to the right so the market price falls and demand rises
  - B to shift the demand curve to the right so supply and the market price rise
  - C to shift the demand curve to the left so supply and the market price fall
  - D to shift the supply curve to the left so the market price rises and demand falls

. n the government imposes a maximum price on a market, when will supply be reduced?
  - A Always
  - B If the maximum price is set above equilibrium
  - C If the maximum price is set below equilibrium
  - D Never

. price of a good is £1.50 and annual demand is 50,000 units. Research has shown that dropping the price to £1.40 will increase demand by 5,000 units. What is the PED of the good at £1.50?

A 0.10

B 0.67

C 1.50

D 0.10

. The price of Seagrims has fallen by 5% in the last month, and in the same period demand for Halcets, where there has been no price change, has risen by 8%. What is the cross price elasticity of demand between Seagrims and Halcets?

A –1.600

B –0.625

C 1.600

0.025

. The oil industry is an example of which kind of market structure?

A Perfect competition

B Monopoly

C Duopoly

D Oligopoly

Now go back to the Introduction and ensure that you have achieved the Learning outcomes listed for this chapter.

Answers to Interactive questions

Answer to Interactive question 1

- Domestic freezers and perishable products are complements because people buy freezers to store perishable products.
- Perishable products are supplied either as fresh produce (for example, fresh meat and fresh vegetables) or as frozen produce, which can be kept for a short time in a refrigerator but for longer in a freezer. The demand for frozen produce will rise (the demand curve will move to the right), while the demand for fresh produce will fall (the demand curve will move to the left).
- Wider ownership of freezers is likely to increase bulk buying of perishable products. Suppliers can save some packaging costs, and can therefore offer lower prices for bulk purchases.

Answer to Interactive question 2

Under assumption 1, the demand for swimming pools will be confined to household 1. Even if this household owns three or four properties, the demand for swimming pools is likely to be less than under assumption 2, where potentially all five households might want one.

Answer to Interactive question 3

The supply of shares in a particular company is relatively static, although new shares will be issued from time to time. Demand for a company's shares will depend largely on how well the company is performing, although broader economic considerations are also influential. The price mechanism responds very rapidly – a share price may fluctuate up and down at very short intervals, often undergoing several changes in the course of a single day. With computers processing programmed transactions on behalf of traders all the time, in reality share prices are continuously changing even if just fractionally.

Answer to Interactive question 4

(1) **A retail fruit and vegetable market**

The market will probably consist of many small traders, each with their own stall and competing with each other. The supply conditions affecting prices are:

(a) **Costs**: the main cost to traders will be the cost of their own wholesale supplies, although there will also be costs of renting a stall and costs of wages/labour. Even so, costs will be lower in a market of this kind than in a shopping centre

(b) **The availability of stalls**: the prices that traders can charge will depend to some extent on the number of stalls that there are and the ease with which new traders can acquire a stall and enter the market.

The demand conditions affecting price are:

(a) The price of **similar goods in shops**

(b) **Shoppinghabits** – for example whether householders are accustomed to buying their food from markets

(c) The **quality of the goods** on the market and how they compare with similar goods in shops

(d) How much **money** shoppers have to spend

(2) **An auction of antiques and paintings**

The items up for auction will probably have a reserve price. Once the price bid during the auction rises above the reserve price, the seller cannot supply more of the items. They can only sell the item at whatever the maximum bid price happens to be.

The supply of items for auction is unlikely to be influenced by cost of the items. The factors which are relevant to the supply decision are:

(a) The reserve price – the minimum price the supplier will accept

(b) The expected price – the supplier might put an item up for auction in the expectation of receiving a certain price

(c) Other circumstances (such as personal factors) influencing the supplier's decision to sell at all

The price obtained at an auction is mainly determined by demand. Factors influencing demand are:

- The number of potential customers at the auction and the amount of money they have to spend
- The investment value of the items
- The tastes of customers and the artistic value they perceive in the items up for sale
- The price of similar items at recent auctions elsewhere

Broadly speaking, prices in a retail fruit and vegetable market are influenced mainly by costs (wholesale prices), while in an auction of antiques and paintings the main factor influencing price is demand. Different conditions have varying degrees of importance between one type of market and another.

Answer to Interactive question 5

We can use the same price/quantity change data, assuming that the demand curve is a straight line, although we are now looking at a different point on the curve.

At a price of £1.30, annual demand is 730,000 units.

For a price fall from £1.30 of 10 pence:

$$\text{\% change in demand} \quad \frac{70{,}000}{730{,}000} \times 100\% = 9.59\% \text{ (rise)}$$

$$\text{\% change in price} \quad \frac{10\text{p}}{130\text{p}} \times 100\% = 7.69\% \text{ (fall)}$$

$$\text{Price elasticity of demand} \quad = \frac{9.59}{-7.69} = -1.25,$$

or 1.25 ignoring the minus sign.

Demand is even more **elastic** at this point than it was at £1.20.

Answer to Interactive question 6

(1) Product A

At price £5:

$$\text{Change in quantity} \quad \frac{300}{1{,}700} = 17.6\%$$

$$\text{Change in price} \quad \frac{-40}{£5} = -8\%$$

$$\text{PED} = \frac{17.6\%}{-8\%} = -2.2$$

Demand is elastic and a fall in price should result in such a large increase in quantity demanded that total revenue will rise.

	£
Revenue at old price of £5 (1,700	(8,500)
Revenue at new price of £4.60 (2,000	9,200
Increase in total revenue	700

(2) Product B

At price £8:

$$\text{Change in quantity} \quad \frac{500}{9{,}500} = 5.3\%$$

$$\text{Change in price} \quad \frac{-50\text{p}}{\text{£8}} = -6.25\%$$

$$\text{PED} = \frac{5.3\%}{-6.25\%} = -0.85$$

Demand is inelastic and a fall in price should result in only a relatively small increase in quantity demanded. Total revenue falls.

	£
Revenue at old price of £8 ((9,500)	(76,000)
Revenue at new price of £7.50 ((10,000)	75,000
Fall in total revenue	(1,000)

Answer to Interactive question 7

As demand for organic food is elastic, the government can expect a strong response to a reduction in price, that is an expansion of demand down the demand curve as the price drops. This can be calculated as follows:

Target increase in demand: 0.03

PED: –1.6

Percentage change in price needed to achieve target increase: 0.03/1.6 × 100% = 1.875%

Answer to Interactive question 8

A The increased trade for local shops

Item (b) is an external cost of the project, since increased volumes of traffic are harmful to the environment. Item (c) is a private benefit for the private company which built the complex. Item (d) would only be an external benefit if a building is better for the people in the inner city area than the use of open land, which is unlikely. Item (a) is correct because the benefits to local shops are additional to the private benefits of the sports firm and as such are external benefits.

Answers to Self-test questions

1 Correct answer(s):

A national influences in the macroeconomic environment

2 Correct answer(s):

A Price

C Income levels

E Fashion

3 Correct answer(s):

A A rise in the price of Grets will lead to a rise in demand for Pands

4 Correct answer(s):

C inferior

5 Correct answer(s):

A A rise in household income

6 Correct answer(s):

A to shift the supply curve to the right so the market price falls and demand rises

7 Correct answer(s):

C If the maximum price is set below equilibrium

8 Correct answer(s):

C 1.50

(5,000/50,000)/(£0.10/£1.50)

9 Correct answer(s):

A –1.600

+0.08/–0.05

10 Correct answer(s):

D Oligopoly

Appendix

Tax Tables FA2020

Syllabus area: Administration

SUBMISSION DATES

Submission dates for 2020/21 personal self-assessment tax returns

Return filed online	Later of: 31 January 2022 3 months from the date of issue of return
Paper returns	Later of: 31 October 2021 3 months from the date of issue of return

Submission dates for corporation tax returns

Must be filed by 12 months from the end of the period of account.

Submission dates for PAYE information: Real Time Information

Information	Filing date
Full Payment Submission (FPS)	On or before the day the employee is paid
P60 (to employees)	31 May following the tax year end
P11D	6 July following the tax year end

PAYMENT DATES

Payment dates for income tax

Payment	Filing date
First interim payment (1)	31 January in the tax year
Second interim payment (1)	31 July following the tax year end
Balancing payment	31 January following the tax year end

(1) Interim payments are not required if the tax paid by assessment for the previous year was less than:

£1,000; or

20% of the total tax liability (income tax and Class 4)

Payment dates for capital gains tax

Capital gains tax is payable by 31 January following the tax year end.

Payment dates for corporation tax	
Corporation tax	Nine months and one day after the end of an accounting period
Corporation tax by instalments – large companies	The 14th day of months 7, 10, 13 and 16 counted from the start of a 12-month accounting period
Corporation tax by instalments – very large companies	The 14th day of months 3, 6, 9 and 12 counted from the start of a 12-month accounting period

Payment dates for VAT

	Due date
Electronic payment	7 calendar days after the last day of the month following the end of the return period
Direct debit payment	Collected automatically 3 working days after electronic payment due date

MAIN PENALTY PROVISIONS

PENALTIES FOR INCORRECT RETURNS

The penalties are a percentage of the potential lost revenue

Reason for penalty	Maximum penalty	Minimum penalty with unprompted disclosure	Minimum penalty with prompted disclosure
Careless action	30%	Nil	15%
Deliberate but not concealed action	70%	20%	35%
Deliberate and concealed action	100%	30%	50%

PENALTIES FOR FAILURE TO NOTIFY

Failures to notify chargeability to tax, or liability to register for tax that leads to a loss of tax will result in a penalty. The penalties are a percentage of the potential lost revenue.

Reason for penalty	Maximum penalty	Minimum penalty with unprompted disclosure		Minimum penalty with prompted disclosure	
Deliberate and concealed action	100%		30%		50%
Deliberate but not concealed action	70%		20%		35%
		>12m	<12m	>12m	<12m
Any other case	30%	10%	Nil	20%	10%

COMPANIES: PENALTIES

Offence	Maximum Penalty
Failure to notify chargeability within 12 months of end of accounting period	See above: penalties for failure to notify

Corporation tax: penalties for late filing of a corporation tax return

Offence	Penalty(1)
Late return, up to 3 months late	£100 fixed penalty, or £500 for persistent failure
Return more than 3 months late	£200 fixed penalty, or £1,000 for persistent failure
Return filed more than 18 months but less than 24 months after end of return period	Tax geared penalty of 10% of tax unpaid 18 months after end of return period
Return filed more than 24 months after end of return period	Tax geared penalty of 20% of tax unpaid 18 months after end of return period

(1) The tax geared penalty is charged in addition to the fixed penalty but only one of each type of penalty is charged.

INDIVIDUALS: PENALTIES

Offence	Maximum Penalty
Failure to notify chargeability by 5 October following tax year end	See above: penalties for failure to notify
Late payment of income tax or capital gains tax: (1)	
Unpaid 30 days after payment due date	5% of tax unpaid
Unpaid 6 months after payment due date	Further 5% of tax unpaid
Unpaid 12 months after payment due date	Further 5% of tax unpaid

(1) Late payment penalties do not apply to payments on account.

Income tax and CGT: penalties for late filing of a self-assessment return

Offence	Maximum Penalty
Late return	Immediate £100 fixed penalty
Return more than 3 months late	Daily fixed penalties of up to £10 per day for maximum 90 days
Return more than 6 months but less than 12 months late	Further tax geared penalty of 5% of tax due (minimum £300)
Return 12 months late	Further tax geared penalties apply (minimum £300): 100% if deliberate and concealed(1) 70% if deliberate but not concealed(1) 5% in all other cases

(1) These tax geared penalties are reduced for disclosure as per penalties for incorrect returns.

PAYE: penalties for late returns/ submissions

Number of employees	Monthly penalty
1 to 9	£100
10 to 49	£200
50 to 249	£300
250 or more	£400

If the form is more than three months late, an additional penalty is due of 5% of the tax and NIC that should have been reported.

Additionally, there is a £300 penalty per late P11D return, with an extra £60 per day charged if the delay continues.

PAYE: penalties for late payment

	No of late payments	% of tax unpaid(1)
Penalties for late payment of in-year PAYE depend on the number of defaults in the tax year	1st	nil
	2nd, 3rd & 4th	1%
	5th, 6th & 7th	2%
	8th, 9th & 10th	3%
	11th or more	4%
Where a penalty has been imposed and the tax remains unpaid at 6 months		5%(2)
Where a penalty has been imposed and the tax		5%(2)

remains unpaid at 12 months

(1) The percentage penalty is applied to the total amount that is late in the relevant tax month.

(2) The 6 month and the further 12 month penalties are in addition to the initial penalty for late payment.

VAT: penalties

Offence	Maximum Penalty
Failure to notify liability for registration or change in nature of supplies by person exempted from registration	See above: penalties for failure to notify

VAT: late payment or late filing – default surcharge

Default involving late payment of VAT in the surcharge period[1]	Surcharge as a percentage of the VAT outstanding at the due date
First	2%[2]
Second	5%[2]
Third	10%[3]
Fourth	15%[3]

(1) Default if late payment of VAT or filing of VAT return and surcharge liability notice issued, but default surcharge only applies on late payment.

(2) No surcharge if it would be less than £400.

(3) Minimum £30 payable.

VAT errors

An error made on a VAT return can be corrected on the next return provided it was not deliberate and does not exceed the greater of:

- £10,000 (net under-declaration minus over-declaration); or
- 1% x net VAT turnover for return period (maximum £50,000)

Alternatively, a 'small' error which is not deliberate may be corrected via the submission of form VAT652. Errors which are not 'small' or errors which are deliberate should be notified to HMRC on form VAT652.

RECORD KEEPING PENALTY

Offence	Maximum Penalty
Failure to keep and retain tax records	£3,000 per tax year / accounting period

INCOME TAX RATES: 2020/21

	Rate	Taxable income band
Main rates		
Basic rate	20%	£1 – £37,500
Higher rate	40%	£37,501 – £150,000
Additional rate	45%	Over £150,000
Savings rates		
Starting rate for savings	0%	£1 - £5,000
Savings income nil rate	0%	First £1,000 or £500
Savings basic rate	20%	Otherwise chargeable at basic rate

	Rate	Taxable income band
Savings higher rate	40%	Otherwise chargeable at higher rate
Savings additional rate	45%	Otherwise chargeable at additional rate
Dividends rates		
Dividend nil rate	0%	First £2,000
Dividend ordinary rate	7.5%	Otherwise chargeable at basic rate
Dividend upper rate	32.5%	Otherwise chargeable at higher rate
Dividend additional rate	38.1%	Otherwise chargeable at additional rate
Default rates		
Default basic rate	20%	
Default higher rate	40%	
Default additional rate	45%	

INCOME TAX RELIEFS	**2020/21**
Personal allowance	£12,500

CGT RATES

	2020/21
Gains falling within the remaining basic rate band	10%
Gains exceeding the basic rate band	20%

CORPORATION TAX RATES

	FY 2020
Tax rate	19%
Augmented profits limit for corporation tax payment dates – large companies	£1,500,000
Augmented profits limit for corporation tax payment dates – very large companies	£20,000,000

NATIONAL INSURANCE CONTRIBUTIONS

	2020/21		
NIC CLASS 1	**Annual**	**Monthly**	**Weekly**
Primary threshold (PT)	£9,500	£792	£183
Secondary threshold (ST)	£8,788	£732	£169
Upper earnings limit (UEL)	£50,000	£4,167	£962
Apprentice upper secondary threshold (AUST) for under 25s	£50,000	£4,167	£962
Upper secondary threshold (UST) for under 21s	£50,000	£4,167	£962

NIC CLASS 1	Annual	2020/21 Monthly	Weekly
Employment allowance (per year, per employer)	£4,000		
Class 1 Primary contributions on earnings between PT & UEL	12%		
Class 1 Primary contributions on earnings above UEL	2%		
Class 1 Secondary contributions on earnings above ST where employee aged 21 or over and not an apprentice under the age of 25	13.8%		
Class 1 Secondary contributions on earnings between ST & AUST for apprentices under the age of 25	0%		
Class 1 Secondary contributions on earnings above AUST for apprentices under the age of 25	13.8%		
Class 1 Secondary contributions on earnings between ST & UST for employees under the age of 21	0%		
Class 1 Secondary contributions on earnings above UST for employees under the age of 21	13.8%		
Class 1A contributions	13.8%		

	2020/21
NIC CLASS 2	
Normal rate	£3.05 pw
Small profits threshold	£6,475 pa
NIC CLASS 4	
Annual lower profits limit (LPL)	£9,500
Annual upper profits limit (UPL)	£50,000
Percentage rate between LPL & UPL	9%
Percentage rate above UPL	2%
VAT	
Standard rate of VAT	20%
Reduced rate of VAT	5%

Syllabus Area: Income Tax & NIC

INCOME TAX RATES: 2020/21	Rate	Taxable income band
Main rates		
Basic rate	20%	£1 – £37,500
Higher rate	40%	£37,501 – £150,000
Additional rate	45%	Over £150,000
Savings rates		

INCOME TAX RATES: 2020/21	Rate	Taxable income band
Starting rate for savings	0%	£1 - £5,000
Savings income nil rate	0%	First £1,000 or £500
Savings basic rate	20%	Otherwise chargeable at basic rate
Savings higher rate	40%	Otherwise chargeable at higher rate
Savings additional rate	45%	Otherwise chargeable at additional rate
Dividends rates		
Dividend nil rate	0%	First £2,000
Dividend ordinary rate	7.5%	Otherwise chargeable at basic rate
Dividend upper rate	32.5%	Otherwise chargeable at higher rate
Dividend additional rate	38.1%	Otherwise chargeable at additional rate
Default rates		
Default basic rate	20%	
Default higher rate	40%	
Default additional rate	45%	

INCOME TAX RELIEFS	2020/21
Personal allowance(1)	£12,500
Marriage allowance(2)	£1,250

(1) The personal allowance of any individual with adjusted net income above £100,000 is reduced by £1 for every £2 of adjusted net income above the £100,000 limit.

(2) A spouse or civil partner who is a basic rate taxpayer or who has income of less than the personal allowance is allowed to transfer £1,250 of their personal allowance (ie 10% rounded up to the next £10) to their spouse/civil partner provided the recipient spouse is a basic rate taxpayer.

CAPITAL ALLOWANCES

First year allowances available

100% on new and unused zero emissions goods vehicles

100% on new and unused low emission cars ie electrically propelled or with CO_2 emissions of not more than 50 g/km

100% on electric vehicle charging points

Annual investment allowance

£200,000 pa of expenditure incurred by any business on certain plant and machinery from 1 January 2021.

Writing down allowances

18% pa in the main pool

COMPANY VANS, CARS AND FUEL

Van scale charge

No charge applies if there is insignificant private use

£2,792 if van has zero CO_2 emissions and £3,490 if it has CO_2 emissions

Additional £666 if private fuel provided for the van

Company cars – cash equivalent	
Zero emissions cars	0% of list price

Company cars – cash equivalent

Hybrid cars with emissions 1-50g/km	2% of list price for cars with a battery range of >130 miles
	5% of list price for cars with a battery range of 70-129 miles
	8% of list price for cars with a battery range of 40-69 miles
	12% of list price for cars with a battery range of 30-39 miles
	14% of list price for cars with a battery range of <30 miles
Other cars	15% of list price for cars emitting 51-54g/km
	16% of list price for cars emitting 55-59g/km
	17% of list price for cars emitting 60-64g/km
	18% of list price for cars emitting 65-69g/km
	19% of list price for cars emitting 70-74g/km
	20% of list price for cars emitting 75-79g/km
	Increased by 1% per 5g/km over the 75g/km relevant threshold

Relevant % is reduced by 2% for cars first registered from 6 April 2020

Capped at 37% of list price (ie emissions of 160g/km or more for cars first registered before 6 April 2020 and 170g/km for cars first registered from 6 April 2020)

Diesel cars that meet the Real Driving Emissions Step 2 (RDE2) standard are treated as above, all other diesel cars have a 4% supplement added to the relevant percentage (subject to 37% cap)

Private fuel provided for company car

£24,500 x company car %

PAYE CODES

L	tax code with personal allowance
M	tax code with personal allowance plus claiming marriage allowance
N	tax code with personal allowance less surrendered marriage allowance
S	income taxed at Scottish rate of income tax
C	income taxed at Welsh rate of income tax
K	total allowances are less than total deductions
T	tax code includes other calculations to work the personal allowance, for example it has been reduced because estimated annual income is more than £100,000

NATIONAL INSURANCE CONTRIBUTIONS

	2020/21		
NIC CLASS 1 CONTRIBUTIONS	**Annual**	**Monthly**	**Weekly**
Primary threshold (PT)	£9,500	£792	£183
Secondary threshold (ST)	£8,788	£732	£169
Upper earnings limit (UEL)	£50,000	£4,167	£962

NIC CLASS 1 CONTRIBUTIONS		2020/21 Annual	Monthly	Weekly
Apprentice upper secondary threshold (AUST) for under 25s		£50,000	£4,167	£962
Upper secondary threshold (UST) for under 21s		£50,000	£4,167	£962
Employment allowance (per year, per employer)	£4,000			
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Class 1 Secondary contributions on earnings between ST & AUST for apprentices under the age of 25	0%			
Class 1 Secondary contributions on earnings above AUST for apprentices under the age of 25	13.8%			
Class 1 Secondary contributions on earnings between ST & UST for employees under the age of 21	0%			
Class 1 Secondary contributions on earnings above UST for employees under the age of 21	13.8%			
Class 1A contributions	13.8%			

	2020/21
NIC CLASS 2 CONTRIBUTIONS	
Normal rate	£3.05 pw
Small profits threshold	£6,475 pa
NIC CLASS 4 CONTRIBUTIONS	
Annual lower profits limit (LPL)	£9,500
Annual upper profits limit (UPL)	£50,000
Percentage rate between LPL & UPL	9%
Percentage rate above UPL	2%

Syllabus area: Capital Gains

	2020/21
Annual exempt amount	£12,300
Gains falling within the remaining basic rate band	10%
Gains exceeding the basic rate band	20%
Basic rate band	£1 – £37,500

Syllabus area: Corporation tax

	FY 2020
Tax rate	19%
Augmented profits limit for corporation tax payment dates – large companies	£1,500,000
Augmented profits limit for corporation tax payment dates – very large companies	£20,000,000

CAPITAL ALLOWANCES

First year allowances available

100% on new and unused zero emissions goods vehicles

100% on new and unused low emission cars ie electrically propelled or with CO_2 emissions of not more than 50 g/km

100% on electric vehicle charging points

Annual investment allowance

£200,000 pa of expenditure incurred by any business on certain plant and machinery from 1 January 2021.

Writing down allowances

18% pa in the main pool

PAYMENT DATES

Payment dates for corporation tax	
Corporation tax	Nine months and one day after the end of an accounting period
Corporation tax by instalments – large companies	The 14th day of months 7, 10, 13 and 16 counted from the start of a 12-month accounting period
Corporation tax by instalments – very large companies	The 14th day of months 3, 6, 9 and 12 counted from the start of a 12-month accounting period

Syllabus area: Value Added Tax

VAT

Standard rate		20%
Reduced rate		5%
Annual registration limit	From 1 April 2017	£85,000
Deregistration limit	From 1 April 2017	£83,000
VAT fraction (standard rated)		1/6

Cash accounting	**£**
Turnover threshold to join scheme	1,350,000
Turnover threshold to leave scheme	1,600,000
Annual accounting	
Turnover threshold to join scheme	1,350,000
Turnover threshold to leave scheme	1,600,000

Flat rate scheme	
Annual taxable turnover limit (excluding VAT) to join scheme	150,000
Annual total income (including VAT) to leave scheme	230,000

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1. Error Code: -43 - File not found. : Error Context : Layout=BPP, Box=CoverPage_Exam
2. Bullet and Numbering Style with name: TYL_QNA_BN does not exist. Applied default style.Error Code: 10426 - This B&N or Outline Style with name * TYL_QNA_BN * is not available in the template or in application level resources. : Error Context : Layout=BPP, Box=Thumb_Box_10*
3. Bullet and Numbering Style with name: TYL_QNA_BN does not exist. Applied default style.Error Code: 10426 - This B&N or Outline Style with name * TYL_QNA_BN * is not available in the template or in application level resources. : Error Context : Layout=BPP, Box=Thumb_Box_10*
4. Bullet and Numbering Style with name: TYL_QNA_BN does not exist. Applied default style.Error Code: 10426 - This B&N or Outline Style with name * TYL_QNA_BN * is not available in the template or in application level resources. : Error Context : Layout=BPP, Box=Thumb_Box_10*
5. Bullet and Numbering Style with name: TYL_QNA_BN does not exist. Applied default style.Error Code: 10426 - This B&N or Outline Style with name * TYL_QNA_BN * is not available in the template or in application level resources. : Error Context : Layout=BPP, Box=Thumb_Box_10*
6. Bullet and Numbering Style with name: TYL_QNA_BN does not exist. Applied default style.Error Code: 10426 - This B&N or Outline Style with name * TYL_QNA_BN * is not available in the template or in application level resources. : Error Context : Layout=BPP, Box=Thumb_Box_10*
7. Bullet and Numbering Style with name: TYL_QNA_BN does not exist. Applied default style.Error Code: 10426 - This B&N or Outline Style with name * TYL_QNA_BN * is not available in the template or in application level resources. : Error Context : Layout=BPP, Box=Thumb_Box_10*
8. Bullet and Numbering Style with name: TYL_QNA_BN does not exist. Applied default style.Error Code: 10426 - This B&N or Outline Style with name * TYL_QNA_BN * is not available in the template or in application level resources. : Error Context : Layout=BPP, Box=Thumb_Box_10*
9. Bullet and Numbering Style with name: TYL_QNA_BN does not exist. Applied default style.Error Code: 10426 - This B&N or Outline Style with name * TYL_QNA_BN * is not available in the template or in application level resources. : Error Context : Layout=BPP, Box=Thumb_Box_10*
10. Bullet and Numbering Style with name: TYL_QNA_BN does not exist. Applied default style.Error Code: 10426 - This B&N or Outline Style with name * TYL_QNA_BN * is not available in the template or in application level resources. : Error Context : Layout=BPP, Box=Thumb_Box_10*
11. Bullet and Numbering Style with name: TYL_QNA_BN does not exist. Applied default style.Error Code: 10426 - This B&N or Outline Style with name * TYL_QNA_BN * is not available in the template or in application level resources. : Error Context : Layout=BPP, Box=Thumb_Box_10*